

Lwarp

LATEX HTML5

The lwarp package

LATEX to HTML

v0.83 — 2020/03/25

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Abstract

The `lwarp` package converts LATEX to HTML by using LATEX to process the user's document and directly generate HTML tags. External utility programs are only used for the final conversion of text and images. Math may be represented by SVG images or MATHJAX. Hundreds of LATEX packages are supported, including dozens with MATHJAX emulation.

Documents may be produced by DVI or PDF LATEX, LuaLATEX, XeLATEX; by several CJK engines, classes, and packages; or by customized systems such as `perltx` and `pythontex`. A `texlua` script automates compilation, index, glossary, and batch image processing, and also supports `latexmk`. Configuration is semi-automatic at the first manual compile. Support files are self-generated. Print and HTML versions of each document may coexist.

Assistance is provided for HTML import into EPUB conversion software and word processors.

Requirements include the commonly-available POPPLER utilities (included with MiKTEX) and PERL. Detailed installation instructions are included for each of the major operating systems and TEX distributions.

A quick-start tutorial is provided, as well as extensive documentation for special cases, a general index, and a troubleshooting index. Automatic error testing is provided for configuration files, package load order, and image generation.

SVG math and many other generated images include LATEX expressions in the alt tags. MATHJAX may be used with advanced equation numbering under the direct control of `lwarp`.

Complicated tables are supported, which copy/paste well into LIBREOFFICE WRITER.

Supported classes and packages include `memoir` and `koma-script`, `cleveref`, `caption`, `mdframed`, `siunitx`, and many popular packages for tabulars, floats, graphics, theorems, the title page, bibliography, indexing, footnotes, and editorial work, as well as a number of CJK-related classes and packages.

TEX is a self-modifying tokenized macro-expansion language. Since `lwarp` is written directly in LATEX, it is able to interpret the document's meaning at a deeper level than external conversions which merely approximate TEX. HTML5 and CSS3 are leveraged to provide advanced features such as booktabs trim, multicolumns, side-by-side minipages, and JAVASCRIPT-free navigation.

For a list of supported features, see table 2: Supported packages and features.

To update existing projects, see section 1: Updates.

Lwarp is still in development. Changes are likely.

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1 Updates

The following is a summary of updates to l warp, highlighting new features and any special changes which must be made due to improvements or modifications in l warp itself.

For a detailed list of the most recent changes, see the end of the Change History on page [1174](#).

v0.83: memoir fixes.

- packages**
- **memoir:** Various fixes and updates, but subcaption labels still need work.
(Out of time...)
 - **physunits:** Updated to v1.0.4.

v0.82: MATHJAX notes, xpinyin improvements, various updates.

- MATHJAX**
- Improved footnotes with MATHJAX.
 - Added MATHJAX emulation for `endnotes`, `marginnote`, `nccfoots`, `pagenote`, `parnotes`, `sidenotes`.

- packages**
- **xpinyin:** Added pinyin with modern HTML.
 - **luatexko:** Added `\dotemph`, `\ruby`, `\uline`, etc.
 - **soul:** Fixed `\<`.
 - **chemfig:** Updated to v1.5.
 - **draftwatermark:** Updated to v2.0.
 - **ulem:** Fixed: `\dashuline`.
 - **amsmath:** Fixed: `\intertext` with MATHJAX.
 - **endnotes:** Fixed: Marks in print mode.
 - **tocvsec2, tableof:** Verified to work as-is.
 - Added `etoc` (nullified).

v0.81: MATHJAX speedup and additional emulations.

- core**
- Improved warning regarding SVG math sizing/baselines and `graphics/graphicx`. See section [8.7](#).

- MATHJAX**
- Improved MATHJAX emulation processing speed.
 - Added MATHJAX emulation for `accsupp`, `axessibiliy`, `colonequals`, `decimal`, `dotlessi`, `econometrics`, `englrc`, `multiobjective`, `physunits`, `Slunits`, `stackrel`, `statmath`.

- packages**
- **axessibility:** Updated to 2020/01/08 version.
 - **gridset:** Updated to v0.3.
 - **Slunits:** Fixed for math mode.
 - Added `DotArrow`, `nolbreaks`, `luamplib`, `returntogram`, `statex2`, `tagpdf`.
 - Verified to work as-is with `icomma`, `mathpunctspace`, `textualicomma`.

v0.80: MATHJAX, biblatex.

- MATHJAX**
- Added docs and warning/info messages re: avoiding slow MATHJAX compilation. See section [8.7.5, Customizing MATHJAX](#).
 - Added MATHJAX emulation for accessibility, autobreak, centernot, extarrows, fouridx, gensymb, leftidx, mathcomp, mathdots, mathfixs, mismath, nccmath, noitcrl, pdfcomment, relsize, rmathbr, subsupscripts, xfrac.
 - Improved MATHJAX emulation for unicode-math.
- packages**
- biblatex, url: Now create hyperlinks.
 - amsmath: Fix to center starred environments.
 - xcolor, graphics: Made more macros robust.
 - colortbl: Fix: Rule color in a `\teximage`.
 - chemmacros: Updated to v5.10.
 - Added fewerfloatpages, ghsystem, hhline, mismath, nccmath.

v0.79: MATHJAX, nested tabular.

- MATHJAX**
- Added or improved MATHJAX emulation for amsmath, ar, arydshln, bm, bigdelim, bigstrut, booktabs, braket, mathtools, multirow, physics, siunitx, slashed, unicode-math, xfakebold.
 - Warn if using certain packages not supported by MATHJAX.
- core**
- tabular: Now may be nested.
 - minipage, \parbox, fminipage, \makebox, \framebox: Fix: Adjust for virtual page size.
 - Uses new iftex.
- packages**
- graphicx: Fix: Negative angles.
 - caption: Fix: \captionlistentry with longtable.
 - multirow: Fix: Centered vertical alignment.
 - siunitx: Fix: \square, \cubed.
 - booktabs: Fix: memoir with \teximage.
 - babel and polyglossia: Added troubleshooting warnings.
 - fontawesome, fontawesome5: Supports text color and size.
 - transparent: Fix: \teximages.
 - epigraph: Updated to v1.5e.
 - xurl: Updated to v0.08.
 - subcaption: Fixed with memoir.
 - floatrow: Fix: \linewidth. No longer require float, graphics.
 - floatflt, wrapfig, niceframe: Fix: Adjust for virtual page size.
 - Added widetable, witharrows, steinmetz.
 - Added awesomebox, catoptions.
 - Added svg, supports svg-extract.
 - Added parcolumns, pdfcolparcolumns,
 - Added parallel, pdfcolparallel.
 - Added pdfcol, pdfcolfoot, pdfcolmk.

v0.78: Fixes for support files, alt tags, hyperlinks, and the 2019/10 L^AT_EX release.

docs

- Docs: Improved documentation regarding package options. See section 8.1.
- Fix to overwrite existing support files using new filecontents environment.

packages

- breqn: Previously broken by the 2019/10 L^AT_EX update, but now working again.

- graphics: Fix for \includegraphics alt tags.

- babel-french: Fix for hyperlinks.

- media9, movie15, multimedia: Fix for the 2019/10 L^AT_EX update.

- accessibility: Added.

v0.77: Updates to fix recently-broken packages.

- booktabs: Updated to v1.6180339.

- chemformula: Updated to v4.15.

v0.76: MATHJAX, updates for L^AT_EX 2019/10 release.

docs

- Docs: Expanded documentation regarding the use of multiple projects in the same directory. See section 5.17.

MATHJAX

- MATHJAX: Updated to v2.7.6.

packages

- xr: Updated to v5.05.

- xr-hyper: Updated to v6.1.

- Verified works as-is with xcite.

- acro: Updated to v2.10.

⚠️ broken

- Currently broken in print mode by the 2019/10 L^AT_EX update, and waiting for fixes: breqn, grffile, multimedia, movie15.

v0.75: keyfloat, wrapfig

- \minipage: Fix for \linewidth.

packages

- keyfloat: Improved color control.

- wrapfig: Fix for \linewidth.

v0.74: Docs, SVG math, l warpmk, HTML alt and title text, ly luatex

docs

- Added to the tutorial the section What next?. See section 5.19.

- Added documentation about localization options. See section 7.1.

- Added documentation about accessibility options. See section 7.2.

- Renamed and updated HTML alt text macros:

⚠️ HTML alt text changed names

Old	New
(hard coded as “image”)	\ImageAltText
\mathimagename	\MathImageAltText
\pacakgediagramname	\PackageDiagramAltText

- Added `\ImageAltText` for the default HTML alt text for an image. See section 7.6.
- Added `\ThisAltText`, which may be used to assign a one-time HTML alt tag to the very next image generated by `l warp`, such as a `lateximage`, `picture`, `tikzpicture`, an image generated by various chemistry or engineering packages, or an SVG math image. This macro also adds a title tag to a reference or hyperlink. See section 7.6.

svg math

- Adjusted `\LateximageFontSizeScale` default from .75 to 1.
- Fix: Font control for SVG math.

misc

- Fix: Ignores negative `\hspace`.
- Warning if `SideTOCDepth < FileDepth`.

l warpmk

- `l warpmk: l warpmk clean` removes additional files.
- `l warpmk: l warpmk epstopdf` and `l warpmk pdftosvg` now honor directories.

packages

- `lyluatek`: Split images by `system` or per `fullpage`, improved margins and scaling.
- Tested to work as-is with `mathspec`, `unicode-math`.

v0.73: `\include`, `memoir`, `koma-script`, `caption`, `xy`, `datatool`, music scores.

- Fix for `\include`.
- Warning for a `tabular` inside a ``.
- `\color`: Added HTML support for rules and frames, but not inline text. Use `\textcolor` if possible.
- Improved many HTML tags, reducing `tidy` warnings. See Change History.

packages

- `memoir`: Fixes for `\frontmatter*` and `\mainmatter*`. Added `\book`.

- `koma-script`: Fix for starred captions in the TOC.

- `caption`: Fix for starred captions.

- `datatool`: Added pie, bar, and plot charts.

- `threeparttable`: Added `measuredfigure`.

- `intopdf`: Updated to v0.2.1.

- `tocdata`: Updated to v2.03.

- `quotchap`: Updated to v1.2.

- `versonotes`: Updated to v0.4.

- `backnaur`: Now uses SVG images. Updated to v3.1.

- `xy`: Fix for `\xybox`, improved `xy`, also now compatible with `qcircuit`.

- `fancyvrb`: Fix for label HTML tags.

- Added `stackengine`.

music

- Added `lyluatek`. (Music scores.)

- `musicography`: Updated to 2019/05/28. Added support for `lateximages`.

v0.72: Font control, `\multicolumn`, `xr` and `xr-hyper`.

⚠️ **images**

- Due to internal changes, images for inline SVG math and `lateximages` will have new hash values, and will have to be regenerated using

Enter ⇒ `lwarpmk cleanimages`

and

Enter ⇒ `lwarpmk limages`

- Docs: Color-codes package names in the table of supported packages and features, table 2, according to each package's level of support by `l warp`.
- `\multicolumn`: Fix for paragraph columns.
- `xr`, `xr-hyper`: Fixes for references, `\externaldocument`.
- `soulutf8`: Fix: Loads `soul` for emulation.
- `boxedminipage2e`: Added support for `lateximages`.
- `zhlineskip`: Updated to v1.0e.
- Added `fontaxes`, `slantsc`, `tabfigures`.
- Added `nfssext-cfr`, thus supporting `cfr-lm` and several other font packages.
- Added `backnaur`, `hypbmsec`, `minibox`, `pdfcrypt`, `shapepar`.

v0.71: Error handling, multimedia, tabular.

- `tabular`: Added support for '*' columns. Fix for paragraph tags.
- `quotation`: Fix for HTML tag.
- Docs: Added a section about error conditions tested by `l warp`. See section 13.1.
- `lwarpmk`: If file `lwarpmk.conf` is an older version, or the incorrect operating system, displays the print command to use to recompile.

packages

- `chemfig`: Updated for v1.4.
- `endfloat`: Updated for v2.7.
- `textpos`: Updated for v1.9.1.

multimedia

- Added `media9`, `movie15`, `multimedia`.

v0.70: Error handling, MATHJAX, mathtools.

- Error handling for "Label(s) changed." Refuses to `lwarpmk limages` until recompile first.
- Fix: If Computer Modern font is used, ensures `cm-super` or `lmodern` is used.
- Fixes for `\makebox`.
- Fixes for `\parbox` inside a ``.
- MATHJAX: Updated to v2.7.5. Loads the `autoload-all.js` extension. Added `\MathJaxFilename` to select custom scripts.

packages

- `textcomp`, `xunicode`: Fix for `\textinterrobang`.
- `mhchem`: Works with MATHJAX. See section 353.
- `changes`: Updated to v3.1.2.
- Added `autonum`, `changelayout`, `inputrc`, `mathtools`, `metalogox`.

v0.69: Error handling, many fixes, improved keyfloat / tocdata.

packages

- Fix for HTML corruption of `\teximage` displays.
- `\makebox`, `\framebox`: Fix for $(\langle width, height \rangle)$ arguments.
- `fminipage`: Honors `\minipagewidth`.
- `array`, `longtable`: Fix for `\tabularnewline`.
- `tabularx`, `tabulary`: Fix to require the `array` package.
- `supertabular`, `xtab`: Fix to clear caption after use.
- `graphics`: Added a warning if used the `\includegraphics scale` option.
- `multirow`: Added an error if didn't use `\mrowcell` or `\mcolrowcell` when using `\multirow` or `\multicolumn`.
- `keyfloat`: Updated for v2.00, additional improvements.
- Added `ctable`, `eqlist`, `eqparbox`, `ftcap`, `listliketab`, `minitoc`, `tocdata`, `topcapt`.

v0.68: Error handling, tabulars, footnotes.

l warpmk

- `lwarpmk`: Improved error handling for image generation if compile was incomplete.
- `tabular`: Fix for `\warpprintonly`.
- `longtable`: Improved flexibility for `\endhead`, etc. Improved error reporting if `\endhead`, etc. incorrect for `l warp`.
- `threeparttable`: Fix for caption type.
- `hyperref`: Fix for options with braces.
- `morefloats`: Fix to be loaded early for print output.
- `listings`: Updated for v1.7.
- Added `bigfoot`, `fnpara`, `footnotebackref`, `manyfoot`, `tablefootnote`, `threeparttablex`.
- Added `layouts`, `niceframe`, `perpage`, `showtags`.
- Prevented `alg`, `algorithmic`, `pdfcprot`, `fncylab`.

v0.67: Filename generation, symbol fonts.

docs

- Documentation fix for `<project>-images`, `<project>-images.txt`.
- Added discussion regarding section names. See section 8.4.

filenames

- Added `\FilenameNullify` and `\FilenameSimplify` for filename generation. See section 8.4.
- `Core`, `textcomp`, `xunicode`: Nullified additional symbols during filename generation.

packages

- `color`: Fix for version number warnings.
- Added `academicicons`, `bbding`, `dingbat`, `eurosym`, `fontawesome`, `fontawesome5`, `marvosym`, `pifont`, `typicons`.
- Added `changes`, `easyReview`, `fitbox`, `foreign`, `gloss`, `karnaugh-map`, `multicap`, `nomencl`, `notes`, `struktex`, `umoline`, `xfakebold`.
- Tested to work as-is with `askmaps`, `curves`, `euro`, `karnaughmap`, `tikz-karnaugh`.

v0.66: xr, multiple projects, image names/directory, HTML formatting

⚠ Reset the configuration

- Due to changes in *lwarpmk*, **recompile any existing project a single time** using `pdflatex filename.tex` or similar, after which *lwarpmk* may then be used with the new configuration files.

`lateximage`

- Adds options `ImagesDirectory` and `ImagesName` to assign directory and name prefixes for `lateximage` images. The new defaults include the job-name, allowing the image directories for multiple projects to coexist.

⚠ existing projects

- To reuse existing `lateximage` directories, add `lwarp` options

```
\usepackage[
    ImagesDirectory={lateximages},
    ImagesName={lateximage-}
]{lwarp}
```

If not reused, the existing `lateximages` directory and `lateximages.txt` file may be removed.

`filenames`

- Added `\FilenameLimit` to control the maximum length of the filenames generated by `lwarp`.

⚠ Possible filename changes

- Improved filename generation when special characters or macros are used in section names.

`WINDOWS`

`floats`

`lists, table notes`

`tabular`

`indexing`

`minipage`

`colors`

`HTML`

`docs`

`packages`

- Fix for `lwarpmk cleanimages` with `WINDOWS`.
- Fixes for floats in the home page.
- Improved css for definition lists, table notes.
- `tabular`: Fixes for `\par` in column specifier, minipage inside `tabular`.
- `Indexing`: Fix for a long line of multiple entries.
- `\minipagewidth`: Fix for global changes.
- Added `\UseMinipageWidths` and `\IgnoreMinipageWidths`. See section 8.3.3.
- Improved `\fbox`, `\fboxBlock`, `\fminipage` to use current text color.
- Improved `HTML` output formatting.
- Added discussion regarding invalid `HTML`. See section 8.1.1.
- Added discussion regarding math in section names, `\imagegraphics scale` option. See section 6.
- Added discussion regarding international languages in section names. See section 8.14.
- `caption`: Fix for options clash.
- `xr, xr-hyper`: Now compatible.
- `subcaption`: Improved horizontal spacing.
- `multicol`: Fix for minipage inside `multicol`s.
- `multicolrule`: Updated for v1.2.
- `tocbasic`: Minor update.
- `acronym`: Fix for acronym in float caption.
- `kotexutf`: Patch with `pdflatex` and new `lwarp` labels.
- `extramarks, fancyhdr`: Updated for v3.10.
- `memoir`: Added docs regarding version numbers. See section 8.13.

- zref: No longer required.
- Added ar, ed, indentfirst, nameauth, truncate.
- Verified to work as-is with changelog.
- Prevented colortab, epsf, hyper, picinpar, picins, sistyle, ucs.

v0.65: css layout, alt tags, Japanese.

page layout	<ul style="list-style-type: none"> Moved the sidetoc to the left side, allowing improved css for margin notes. Improved page layout css.
image alt tags	<ul style="list-style-type: none"> graphicx \includegraphics: Added the alt key to assign an alt tag to an image. Default is “image”, assigned to pass validation.
duplicate HTML files	<ul style="list-style-type: none"> Detects and causes an error if duplicate HTML file names are generated, caused by identical or similar sectioning names.
fixes	<ul style="list-style-type: none"> Fix for tabular*. Fix for tabular border colors. Fixes \quad, \enskip, and figure captions to pass validation.
Japanese	<ul style="list-style-type: none"> Added ltj* classes, bounddvi, gentombow, lltext, plarydshln, plect, plectarydshln, plectcolortbl, pxatbegshi, pxeveryshi, pxftnright, pxjahyper, tascmac. Verified to work with plarray, plautopatch, plectarray, plectdelarray, pxgentombow, plsiunitx, pxpdfpages, pxpgfrcs, pxpgfmark.
packages	<ul style="list-style-type: none"> Added support for fontspec \textsi and \sishape. Added multicol's \docolaction. Added embrac, footnoterange, multicolrule, versonotes.

v0.64: Koma-Script, Japanese, Chinese.

Japanese	<ul style="list-style-type: none"> Added utarticle and related classes. Improved ujarticle and related classes.
Chinese	<ul style="list-style-type: none"> Fix for biblatex with CTEX and other classes.
Koma-Script	<ul style="list-style-type: none"> Fixes for scrlayer, scrlayer-scrpage.
packages	<ul style="list-style-type: none"> addlines: Updated to v0.3. Added bsheaders, gmeometric, marginal, rmpage, scrpage2.

v0.63: mdframed, Chinese, Japanese, Korean

localization	<ul style="list-style-type: none"> Added \linkhomename: A user-definable name for the Home link. Documented \sidetocname: A user-definable name for the sidetoc.
fixes	<ul style="list-style-type: none"> Fix: \LinkHome for print output.
optimizations	<ul style="list-style-type: none"> Moved package load checks to the lwarf core to reduce the number of lwarf-* files.
packages	<ul style="list-style-type: none"> mdframed: Fix with amsthm, improved titles and font control. Improved rule widths.
Chinese	<ul style="list-style-type: none"> Fixes for xeCJK. Added xpinyin, zhlineskip.

- Verified to work with `cjkpunct`, `upzhkinsoku`, `zhspacing`.
- Japanese**
 - Verified to work with `zxjatype`, `luatexja`, `luatexja-fontspec`.
 - Added `bxjsarticle` and related classes.
 - Added `ltjsarticle` and related classes.
 - Added `pLATEX`, `upLATEX`, `ujarticle` and related classes.
 - Prevented `utarticle` and related classes.
 - Prevented `bxcjkattype`.
- Korean**
 - Verified to work with `kotex`, `xetexko`, `luatexko`.

v0.62: MiK_TE_X docs, HTML title, C_TE_X, xeC_JK, bitpattern.

- docs**
 - Docs: Setting a UTF-8 locale. See section [9.8](#).
- MiK_TE_X**
 - MiK_TE_X: Docs for *MiK_TE_X Console* and `miktex-poppler-bin`.
- HTML <title>**
 - HTML subplot titles: Added `\HTMLTitleBeforeSection` and `\HTMLTitleAfterSection` to select whether the `HTML <title>` displays the website name before or after the section name. See section [7.6](#).
- fixes**
 - Fix for package options handling.
 - Fixes for horizontal white space between `fminipage`, `fcolorminipage`, `colorboxBlock`, `fcolorboxBlock`.
 - Logos: Fix for X_ET_EX logo, improved css, made robust, improved search-engine optimization.
 - `\\\[$1]`: Additional `HTML
` if $$1 > 0 \text{ pt}$.
 - Fixes for `\includgraphics` filename, and with `FormatWP`.
 - Fix: css for `\textup`.
 - Fix: Added `\slshape`.
- Chinese**
 - Added `ctex` package and related classes, xeC_JK.
 - Prevented C_JK, C_JKutf8 unless xeC_JK, `ctex` are used.
- packages**
 - `chemfig`: Docs for new macro `\polymerdelim`.
 - `asymptote`: Docs for compilation.
 - `chngpage`: Fix to load `l warp-changepage`.
 - `algorithm2e`: Fix with non-book classes.
 - `register`: Updated to v1.8.
 - `nicefrac`: Improved font control and css, honors nice and ugly.
 - `units`: Improved font control and css, honors tight and loose.
 - `xfrac`: Improved css.
 - `textcomp` and `xunicode`: Fix conflicts with `\textcircled`.
 - `ulem`: Improved compatibility with C_JKulem, `lateximage`.
 - MathJax and `siunitx`: Removed inoperable extension.
 - Added `bitpattern`, `pdfcomment`, `pdfmarginpar`, `tram`, `unitsdef`, `xchangebar`.
 - Added `musicography`, `octave`, `semantic-markup`.
 - Added `2in1`, `flippdf`, `notespages`, `rviewport`, `twooup`.

v0.61: Custom compilation, EPS-related packages, documentation, indexes.

- docs
 - Split index into multiple indexes.
 - Improved documentation regarding font selection. See section 7.4.
 - Added documentation regarding debugging options. See section 35.
 - Added documentation regarding HTML entities inside program listings. See section 8.2.1.
- custom compiling
 - Added options to specify the shell commands to execute for `lwarpmk print` and `lwarpmk html`, allowing the use of lwarf with perltex, pythontex, etc. If not specified, these are set automatically depending on the LATEX engine, --shell-escape, and lwarf options. See section 9.
- ⚠ changed names
 - Changed macro names to match \displaymathother, \displaymathnormal:

Old	New
\StartDynamicMath	\inlinemathother
\StopDynamicMath	\inlinemathnormal

- fixes
 - Fix: Paragraph tags in a tabular.
 - Fix: supertabular and xtab captions.
 - Fix: DVI LATEX \includegraphics EPS images.
 - Fix: newfloat lists.
 - Fix: css footnotes text align, minipage tabular and footnote margins.
- packages
 - Added epsfig, psfrag, psfrags, pstool.
 - Added copyrightbox, pdfprivacy, thinsp, threadcol, uspace.
 - Added chkfloat, cmdtrack, dprogress, lua-visual-debug, refcheck, srcltx, srctex, vpe, xbmks.

v0.60: Fixes for longtable, listings.

- fixes
 - longtable, etc.: Fixes for slowdown and memory management for very long tables.
 - listings: Fix for HTML entities, and also when used inside a list.
 - diagbox: Fix for incorrect HTML par tags.
- packages
 - Added 2up, booklet.
 - Added bophook, draftfigure, fullminipage, grid-system, layaureo.
 - Added leading, widows-and-orphans.
 - Added fancytabs, thumb, thumbs.

v0.59: DVI latex, MATHJAX, asymptote, pdftricks and pstricks, epstopdf, brqen.

- ⚠ Reset the configuration
 - Due to changes in `lwarpmk`, **recompile any existing project a single time** using `pdflatex filename.tex` or similar, after which `lwarpmk` may then be used with the new configuration files.
- lwarpmk*
 - Added an error if `lwarpmk.conf`'s format has changed and the document must be recompiled.
 - Added a warning if the `lwarpmk.conf` configuration file appears to be for the wrong operating system, in case files are transferred between systems.

- Added


```
lwarpmk epstopdf <list-of-EPS-files>
```

 to quickly convert a document's EPS images to PDF or SVG. See section 8.8.
- Added support for DVI *latex*. See section 7.5.
- Fix for --shell-escape with *latexmk*.
- Updated MathJax script to v2.7.4.
- Fix: Mathjax chapter number removed from non-numeric tagged equations.
- Added MathJax support for nicefrac, units.
- Fix for \[and \] with \displaymathnormal.
- Fix for \includegraphics filename expansion.
- \includegraphics now works with .pdf and .eps filename extensions.
- Moved amsmath out of the l warp core.
- Fix for chemformula \NMR.
- Added asymptote, pdftricks, pstricks, pst-eps.
- Added breqn, Slunits.
- Added bxpapersize, canoniclayout, draftcopy, fnbreak, nccfancyhdr.
- Added accsupp, axessibility.
- Added xunicode.
- Improved and now supports epstopdf.
- Tested to work as-is: eepic, sepfootnotes.
- Added information about setting up a development version of l warp.

v0.58: Extensive improvements in indexing, glossaries. Adds PDF-inclusion packages.

 Reset the configuration

- Due to changes in *lwarpmk*, recompile any existing project a single time using **pdflatex filename.tex** or similar, after which *lwarpmk* may then be used with the new configuration files.
- *lwarpmk*: Added the -p option to specify the project name.
- *lwarpmk*: Now uses *makeglossaries* for glossary generation, allowing the processing of multiple glossaries at once.
- Added l warp option GlossaryCmd to specify the shell command used by **lwarpmk printglossary** and **lwarpmk htmglossary**. Defaults to **makeglossaries**.
- Docs: Extra indexing options. See section 8.6.14.
- Added support for *makeindex*. (Previously supported only *xindy*.) Also added indexing packages listed below.
- Added l warp options PrintIndexCmd, HTMLIndexCmd, and LatexmkIndexCmd to specify shell commands used by **lwarpmk printindex**, **lwarpmk htmlindex**, and *latexmk*. May be preset with the *makeindex* or *xindy* l warp options. See section 7.5.
- Added l warp options *makeindex* and *xindy* to set PrintIndexCmd, HTMLIndexCmd, and LatexmkIndexCmd to sensible values for a typical single index. See section 7.5.

index and glossary

 l warpmk glossaries

- Added `l warp` option `makeindexStyle` to tell `l warpmk` to use a custom style instead of `l warp.ist`. See section 8.6.20.

misc. fixes

- Fix for index entries with `\see`, `\seealso`, `\emph`, `\textbf`, etc.
- Replaced each `\csuse` with `\@nameuse` for improved error detection.
- Additional internal print/HTML macro selection improvements.
- Fix: `\printindex` finishes pending `\index` writes first.

packages

- Fixes for `memoir`: `makeidx`, `ccaption`, multiple indexes, `\specialindex`.
- Fixes for `komascript`: Indexing improvements.
- Added `imakeidx`, `index`, `repeatindex`, `splitidx`.
- Added `attachfile`, `attachfile2`, `intopdf`, `pdfpages`, `pdffx`.
- Added `cases`.
- Tested to work as-is: `notes2bib`, `hvindex`.

v0.57: `algorithm2e`, `float` styles, `tabular` packages, internal improvements.

MathJax

- Added support for MathJax equations with `\footnote`, `\footnotemark`.

math macros

- Added `\StartDefiningMath` and `\StopDefiningMath` for use when defining macros in the preamble which contain \$. See section 8.7.7.

dynamic math

- Added `\inlinemathother` and `\inlinemathnormal` to delimit math expressions which depend on a variable condition such as a counter. Such expressions will not be hashed for reuse, and will be converted to SVG math images even when MathJax is enabled. See section 8.7.8.

⚠ new name**latexitimage alt tags**

- Renamed `\EndDefiningTabulars` to `\StopDefiningTabulars`.

- Improved localization for `latexitimage` HTML alt tags. For SVG math images, the alt tag under some conditions will be set to `\MathImageAltText`, which defaults to `math` image. For packages, the alt tag is set using the package name followed by `\PackageDiagramAltText`, which defaults to `diagram`. Ex:

(-xy- diagram)

See section 7.6.

misc. fixes

- Fix: Improved print/HTML macro selection.

- Fix: `\href` text catcodes.

- Fix: `\subref` text.

- Fixes: Colored `\rule` and `\boxframe`.

packages

- `float`, `rotfloat`: Adds support for float styles `ruled` and `boxed`.

- `float`: Fix: Do not create `\l@<type>` until `\listof` is used.

- `marginnote`: Fix: Long optional argument.

- `ellipsis`: Adds `\midwordellipsis`.

- `breakurl`: Fix for text catcodes.

- Added `algorithm2e`, `register`, `ltablex`, `xltabular`, `xellipsis`, `trimclip`, `errata`, `vowel`, `xpiano`.

- Prevents `glossary`.

- Tested to work as-is with `gauss`, `phonrule`, `piano`, `Slunits`, `tikzcodeblocks`.

v0.56: Shell escape, tabular packages.

lwarpmk

- Added
`lwarpmk pdftosvg <list-of-PDF-files>`
 to quickly convert a document's PDF images to SVG, for use with HTML. See section 8.8.

tabular

- Added support for --shell-escape. See section 7.3.
- Added support for array w and W columns.
- Fix: `\multicolumn` parameter handling.
- Added support for double `\hlines`, `\midrules`, and vertical rules.
- Added support for `arydshln` dashed lines with HTML `tabular`, but reverts to plain rules for `lateximage` and `svg math array`.

misc. fixes

- Fix: `\thinspace`.
- Fix: `paralist` compact environments.

packages

- Added `parnotes`, `quoting`, `lua-check-hyphen`, `tocenter`, `underscore`.
- Added `bibunits`.
- Tested to work as-is with `babelbib`, `bodegraph`, `fast-diagram`, `nicematrix`, `structmech`.

v0.55: Various fixes.

misc fixes

- Fix: Extraneous space in file links, which also prevented *Calibre* EPUB conversions.
- Fix: Float optional argument regression.
- Fix: `\ForceHTMLTOC` with `\phantomsection`.
- Fix: Overfull boxes in `lateximages`.
- Fix: QED symbols in `lateximage`.

packages

- `koma-script`: Fix: Figure with `\centering`, etc.
- Added `clrdblpg`.

v0.54: Float `\centering`, improved image checks.

 Reset the configuration

- Due to changes in `lwarpmk`, **recompile any existing project a single time** using `pdflatex filename.tex` or similar, after which `lwarpmk` may then be used with the new configuration files.

lwarpmk

- `lwarpmk limages` checks for the presence of the HTML version of the document and valid image references before attempting to create the `lateximages`.
- `lwarpmk`: Improved error message if configuration file does not exist.

BiBTeX

- Added documentation for avoiding error with BibTeX and `\etalchar`. See section 8.6.9.

polyglossia

- Added documentation regarding `polyglossia`. See section 8.15.4.

macros in section names

- Added documentation regarding the use of macros in section names. See section 8.1.

document encoding

- Renamed and added package options:

 New and revised encoding options

Old Package Option	New Package Option
xdyFilename	xindyStyle
IndexLanguage	xindyLanguage
–	xindyCodepage
–	pdftotextEnc

Use these options along with `inputenc` or `inputenx` to process documents in an encoding other than UTF-8. See section [7.4](#).

floats with \centering, etc.

- Floats now honor `\centering`, `\raggedright`, `\raggedleft`, and their `ragged2e` equivalents, when placed directly after:

```
\begin{floattype}
\centering
```

misc. fixes

- tikz: `\pgfpicture`, `fit`, `align`, `font`.
- ragged2e: `\centering` etc.
- hyperref: `\hypertarget` was creating duplicate of `\label`.
- hyperref: Active chars inside `\hyperref`, `\hyperlink`.
- hyperref: `\ref` inside `\hyperlink` caused a nested HTML link.
- glossaries: Fix when not using `babel` or `polyglossia`.
- textcomp: `\textperthousand`.
- L^AT_EX core verse environment: line spacing.
- Removed `\citetitle`, adjusted `\attribution`.
- memoir: Minor update for v3.7g.
- Added `inputenx`, `bibunits`, `chngpage`, `forest`, `magaz`, `gridset`.
- Prevents loading `ae`, `aecc`, `t1enc`, and `wasysym`.



packages

v0.53: Improved image checks.

lwarpmk

- `lwarpmk`: Added a warning about corrupted images due to the need to recompile the document one more time.
- `lwarpmk`: Added the `lwarpmk cleanimages` command.
- Added documentation for `lwarpmk cleanimages` and `lwarpmk pdftohtml`.

v0.52: Improved footnotes, SVG math.

documentation

- Improved install instructions regarding `lwarf_baseline_marker.png`.
- Added documentation regarding footnotes in section headings, and footnotes with `\VerbatimFootnotes` from `fancybox`, `fancyvrb`. See section [8.5.4](#).
- Added documentation regarding font selection when using X^LA_TE_X or Lua^LA_TE_X with `fontspec` and traditional font packages. See section [7.4](#).

SVG math

- Fix: Limit the number of background tasks when generating `lateximages`.
- Added user-adjustable SVG math font scaling. See section [80.3](#).
- Added warnings if `lwarf_baseline_marker.png` is not present, or if `graphicx` or `graphics` is not loaded.
- Improved `\ensuremath` hashing expansion.

- Fix: equation* with split.
 - tabbing now works inside a `\teximage`. Use for math in tabbing.
- MathJax**
- Fix: MathJax script was not executing in some conditions.
 - Added `\CustomizeMathJax` to add custom functions. See section 8.7.
- footnotes**
- Fix: Footnote numbering when using `HTMLDebugComments`.
 - Fix: Footnote paragraph tags.
 - Fix: FootnoteDepth defaults to `\subsubsection`.
- misc. fixes**
- Fix: `\kill` in a `\teximage`.
 - Fix: `\FileDepth`, misc. others, when input encoding is not `utf8`.
 - Fix: `\texorpdfstring` in a section name.
- packages**
- `hyperref` emulation: Fix for #, %, &, ~, _ characters in URLs.
 - `fancybox`, `fancyvrb`: Initial support for `\VerbatimFootnotes`.
 - `nicefrac`: Added with fix for `\ensuremath`.
 - `graphicx`: Fix for option defaults. Added v1.1a/b options.
 - `endfloat`: Updated for v2.6.
 - `url`: Fixes for active characters.
- v0.51:** Improved SVG math, added numerous chemistry packages.
- documentation**
- Docs: Added [Things to avoid](#).
 - Docs: Added to [Converting an existing document](#).
 - Docs: Multiple authors and affiliations with custom classes. See section 8.6.1.
 - Docs: `tikz` with matrices. See section 8.8.1.
- SVG math**
- Improved SVG math baseline.
 - Improved SVG math font and color.
 - Faster SVG math rendering.
 - Improved support for display math containing complicated math objects, such as `tikz-cd`. See section 8.7.9.
 - Fix: `\addcontentsline` inside SVG math.
 - Fix: SVG math containing an embedded `\teximage`.
- MathJax**
- MathJax now handles `\ensuremath` in expressions.
- misc. fixes**
- Fix: Added `alignat` environment.
 - Fix: `afterpackage` no longer required, which conflicted with `scrlfile`.
 - Fix: `titling` `\thanks` mark.
 - Fix: `fancybox` improvements.
 - Fix: `tikz` `\tikz` macro. (Previously only the `tikzpicture` environment worked.)
 - Fix: `tikz` with optional argument.
- packages**
- Added `mhchem`, `chemfig`, `chemformula`, `chemmacros`, `chemnum`, `chemgreek`, `epstopdf-base`, `grid`, `ltxgrid`.

2 Introduction

The `lwarp` project aims to allow a rich L^AT_EX document to be converted to a reasonable HTML5 interpretation, with only minor intervention on the user's part. No attempt has been made to force L^AT_EX to provide for every HTML-related possibility, and HTML cannot exactly render every possible L^AT_EX concept. Where compromise is necessary, it is desirable to allow the print output to remain typographically rich, and compromise only in the HTML conversion.

Several “modern” features of HTML5, css3, and svg are employed to allow a fairly feature-rich document without relying on the use of JAVASCRIPT. Limited testing on older browsers shows that these new features degrade gracefully.

`lwarp` is a native L^AT_EX package, and operates by either patching or emulating various functions. Source-level compatibility is a major goal, but occasional user intervention is required in certain cases.

As a package running directly in L^AT_EX, `lwarp` has some advantages over other methods of HTML conversion. T_EX itself is still used, allowing a wider range of T_EX trickery to be understood. Lua expressions are still available with LuaT_EX. Entire categories of L^AT_EX packages work as-is when used with `lwarp`: definitions, file handling, utilities, internal data structures and calculations, specialized math-mode typesetting for various fields of science and engineering, and anything generating plain-text output. Blocks of PDF output may be automatically converted to svg images while using the same font and spacing as the original print document, directly supporting Tikz and picture. Numerous packages are easily adapted for HTML versions, either by loading and patching the originals, or by creating nullified or emulated replacements, and all without resorting to external programming. As a result, several hundred packages have already been adapted (table 2), and an uncounted number more work as-is.

Packages have been selected according to several criteria: perceived importance, popularity lists, recent CTAN updates, CTAN topics, mention in other packages, support by other HTML conversion methods, and from sample documents taken from public archives. These include some “obsolete” packages as well.¹

Assistance is also provided for modifying the HTML output to suit the creation of EPUB documents, and for modifying the HTML output to ease import into a word processor.

`pdflatex`, `xelatex`, or `lualatex` may be used, allowing `lwarp` to process the usual image formats. While generating HTML output, svg files are used in place of PDF. Other formats such as PNG and JPG are used as-is.

¹An amazing number of decades-old packages are still in use today.

SVG images may be used for math, and are also used for picture, Tikz, and similar environments. The SVG format has better browser and e-book support than MathML (as of this writing), while still allowing for high-quality display and printing of images (again, subject to potentially bug-ridden² browser support).

Furthermore, SVG images allow math to be presented with the same precise formatting as in the print version. Math is accompanied by `<alt>` tags holding the LATEX source for the expression, allowing it to be copy/pasted into other documents.³ Custom LATEX macros may be used as-is in math expressions, since the math is evaluated entirely inside LATEX. An MD5 hash is used to combine multiple instances of the same inline math expression into a single image file, which then needs to be converted to SVG only a single time.

The MATHJAX JavaScript display engine may be selected for math display instead of using SVG images. Subject to browser support and Internet access, MATHJAX allows an HTML page to display math without relying on a large number of external image files.⁴ lwarf maintains LATEX control for cross-referencing and equation numbering, and attempts to force MATHJAX to tag equations accordingly.

A *texlua* program called *lwarpmk* is used to process either the print or HTML version of the document. A few external utility programs are used to finish the conversion from a LATEX-generated PDF file which happens to have HTML5 tags, to a number of HTML5 plain-text files and accompanying images.

lwarf automatically generates the extra files necessary for the HTML conversion, such as css and .xdy files, and configuration files for the utility *lwarpmk*. Also included is a parallel version of the user's source document, `<sourcename>-html.tex`, which selects HTML output and then inputs the user's own source. This process allows both the printed and HTML versions to co-exist side-by-side, each with their own auxiliary files.

When requesting packages during HTML conversion, lwarf first looks to see if it has its own modified version to use instead of the standard LATEX version. These lwarf-packagename.sty files contain code used to emulate or replace functions for HTML output.

²FIREFOX has had an on-again/off-again bug for quite some time regarding printing svgs at high resolution.

³There seems to be some debate as to whether MathML is actually an improvement over LATEX for sharing math. The author has no particular opinion on the matter, except to say that in this case LATEX is much easier to implement!

⁴One SVG image file per math expression, except that duplicate inline math expressions are combined into a single file according to the MD5 hash function of its contents. A common scientific paper can easily include several thousand files, and in one case the MD5 hash cut the number of files in half and the rendering time by 30%.

2.1 Typesetting conventions

Font weight, family, and style are used to indicate various objects:

Table 1: Typesetting conventions

package	L <small>A</small> T <small>E</small> X package.
<i>program</i>	Program's executable name.
<i>option</i>	Program or package option.
filename	File name in the operating system.
BRAND NAME	Proper name for a program, operating system, etc.
commands	Commands to be entered by the user.
<i>code</i>	Program code.
\macro	L <small>A</small> T <small>E</small> X macro.
environment	L <small>A</small> T <small>E</small> X environment.
counter	L <small>A</small> T <small>E</small> X counter.
boolean	L <small>A</small> T <small>E</small> X boolean.
<element>	HTML element.
attribute	HTML attribute.
User Interface	A user-interface item.
ACRO	Acronym.

2.2 Supported packages and features

Table 2 lists some of the various L^AT_EX features and packages which may be used.

Package names are colored according to their support level:

name: Supported as-is.

name: Modified to work with HTML output, and also as print output in `svg` math or `lateximage` environments.

name: Emulated for HTML output.

name: Ignored for HTML output, but provides source-level compatibility.

MJ: Supported as-is for MATHJAX, subject to limitations.

MJ: Emulated for MATHJAX using custom macros, subject to limitations.

MJ: Ignored by MATHJAX, but may be used in the document source.

Table 2: L^AT_EX l warp package — Supported features

Category	Status and supported features.
Engines:	DVI L ^A T _E X, pdfL ^A T _E X, X _E L ^A T _E X, LuaL ^A T _E X, upL ^A T _E X
Compiling:	<i>latexmk</i> , <i>perltex</i> , <i>pythontex</i> , <i>make</i> , etc.
Classes:	article, book, report, scrartcl, scrbook, scrreprt, memoir, CJK-related as listed below.
Koma-script:	<i>scrextend</i> , <i>scrhack</i> , <i>scrlayer</i> . Others as listed below.
Memoir:	memhfixc
Languages:	<i>babel</i> , <i>polyglossia</i> , <i>cjkpunct</i> , <i>xeCJK</i> .
Chinese:	C _T E _X , <i>ctex</i> , <i>upzhkinsoku</i> , <i>xpinyin</i> , <i>zhlineskip</i> , <i>zhspacing</i> .
Japanese:	upL ^A T _E X, LuaT _E X-ja, gentombow, <i>lltjext</i> , <i>plarray</i> , <i>plarydshln</i> , <i>plautopatch</i> , <i>plex</i> , <i>plexarray</i> , <i>plexarydshln</i> , <i>plextcolortbl</i> , <i>plexdelarray</i> , <i>pxatbegshi</i> , <i>pxeveryshi</i> , <i>pxftnright</i> , <i>pxgentombow</i> , <i>pxjahyper</i> , <i>pxpdfpages</i> , <i>pxpgfrcs</i> , <i>pxpgfmark</i> , <i>tascmac</i> , <i>zxjatype</i> . <i>bxjsarticle</i> and related, <i>ltjsarticle</i> and related, <i>luatexja</i> , <i>luatexja-fontspec</i> , <i>ujarticle</i> and related, <i>utarticle</i> and related.
Korean:	<i>kotex</i> , <i>luatexko</i> , <i>xetexko</i> .

l warp Supported Functions — continued

Category	Status
Page layout:	2in1, 2up, a4, a4wide, a5comb, addlines, anysize, atbegshi , blowup, booklet, bophook, bounddvi, bxpapersize, canoniclayout, changelayout , changepage , chngpage, clrdblpg, continue, draftcopy, draftfigure, draftwatermark, ebook, everyshi, fancyhdr , fancytabs, flippdf, fullminipage, fullpage, fwlw, geometry, gmeometric, grid, grid-system , gridset, layaureo, layout, layouts, leading, ltxgrid, nccfancyhdr, notespages, nowidow, pagegrid, pagesel, parallel , parcolumns , pdfcolparallel, pdfcolparcolumns, pdfcrypt, pdfprivacy, preview, ragged2e , returntogrid, rmpage, scrlayer-scrpage , scrpage2 , setspace , textarea, threadcol, thumb, thumbs, titleps, toccenter, turnthepage, twoup, typearea, underlin, vmargin, watermark, widows-and-orphans, zwpagelayout.
Sectioning:	Adds FileDepth for splitting the HTML output. Files may be numbered sequentially or named according to section name. Common short words and punctuation are removed from the file-names. anonchap , bsheaders , fncychap , hypbmsec , indentfirst , quotchap , section , sectionbreak , secdot , sectsty , titlesec , tocvsec2 .
Table of contents, figures, tables:	Supported, with hyperlinks. etoc , minitoc , multitoc , shorttoc , tableof , titletoc , tocbasic , tocbibind , tocdata , tocloft , tocstyle , tocvsec2 .
Title page:	\maketitle, titlepage , authblk , titling .
Front & back matter:	abstract , appendix .
Indexing:	makeindex and xindy are supported, with hyperlinks. hvindex , idxlayout , imakeidx , index , makeidx , repeatingindex , splitidx .
Glossary:	gloss , glossaries and xindy , nomenc .
Bibliography:	babelbib , backref , biblatex , bibunits , chapterbib , cite , hypernat , natbib , notes2bib , showtags .
Cross-references:	bookmark , breakurl , cleveref , fancyref , hypdestopt , hyperref , perpage , prettyref , titleref , url , variorref , xcite , xr , xr-hyper , xurl .
Margin notes:	marginal, marginfit, marginfix, scrlayer-notecolumn , versonotes .

l warp Supported Functions — continued

Category	Status
Footnotes:	Adds FootnoteDepth to print footnotes at section breaks. MATHJAX emulation for \footnote, and also as marked in the following: bigfoot , dblfnote, endheads, endnotes ^{MJ} , fixfoot , fnbreak, fnpara, fnpos, footmisc , footnote , footnotebackref, footnoterange , footnpag, manyfoot , marginnote ^{MJ} , nccfoots ^{MJ} , pagenote ^{MJ} , parnotes ^{MJ} , pdfcolfoot, pfnote, sepfootnotes , sidenotes ^{MJ} , tablefootnote.
Math:	Converted to SVG images with HTML <alt> tags containing the LATEX source for the math expression. MATHJAX supported as an alternative. amsmath ^{MJ} : AMS environments are supported. User-defined macros are available during conversion, due to native LATEX processing.
Theorems:	Native LATEX theorems, amsthm , ntheorem , theorem .
Additional math:	Math fonts via SVG images, amscd , autobreak ^{MJ} , autonum, backnaur , bm ^{MJ} , braket ^{MJ} , breqn , cases , centernot ^{MJ} , colonequals ^{MJ} , decimal ^{MJ} , delarray , DotArrow ^{MJ} , dotlessi ^{MJ} , dotlessj ^{MJ} , extarrows ^{MJ} , fouridx ^{MJ} , guass , icomma ^{MJ} , jkmath , leftidx ^{MJ} , mathcomp ^{MJ} , mathdots ^{MJ} , mathfixs ^{MJ} , mathpunctspace ^{MJ} , mathspec , mathtools ^{MJ} , mismath ^{MJ} , multiobjective ^{MJ} , nccmath ^{MJ} , nicematrix , noitcrl ^{MJ} , pb-diagram , resizegather , rmathbr ^{MJ} , stackrel ^{MJ} , staxex2 ^{MJ} , statmath ^{MJ} , subsubscripts ^{MJ} , textualicomma ^{MJ} , unicode-math ^{MJ} , witharrows ^{MJ} , xfakebold ^{MJ} , xy . Many others work as-is.
Display math with \displaymathother:	Complicated math objects in display math, such as tikz-cd , etc.
Units and fractions:	nicefrac ^{MJ} , Slunits ^{MJ} , siunitx ^{MJ} , units ^{MJ} , unitsdef , xfrac ^{MJ} .
Floats:	Appear where declared. capt-of , caption , cutwin , dblfloatfix , endfloat , fewerfloatpages , fix2col , flafter , float , floatflt , floatrow , fltrace , ftcap , hypcap , keyfloat , morefloats , multicap , newfloat , nonfloat , placeins , rotfloat , stfloats , subcaption , subfig , subfigure , subfloat , topcapt , trivfloat , wrapfig .

l warp Supported Functions — continued

Category	Status
Tabular:	tabular environment, array ^{MJ} , arydshln ^{MJ} , bigdelim ^{MJ} , bigstrut ^{MJ} , booktabs ^{MJ} , colortbl, ctable, diagbox, hhline ^{MJ} , longtable, ltablex, ltxtable, multirow ^{MJ} , supertabular, tabularx, tabulary, threeparttable, threeparttablex, widetable, xltabular, xtab.
Graphics:	graphics and graphicx. \includegraphics supports width, height, origin, angle, and scale tags, and adds class. References to PDF files are changed to SVG, other image types are accepted as well. \rotatebox and \scalebox are supported as well as HTML can handle. rotating is emulated but all objects are unrotated. picture, tikz, and xy are converted to an SVG image. asymptote, curves, datatool, eepic, epsfig, epstopdf, figsize, fitbox, grffile, luamplib, media9, movie15, multimedia, overpic, psfrag, psfrags, pst-eps, pstool, pstricks, rviewport, svg, svg-extract, tikz-3dplot.
xcolor:	Full package color names, any color models, and mixing. \textcolor, \colorbox, \fcolorbox . Enhanced for HTML compatibility.
Lists:	Standard LATEX environments, enumerate, enumitem, eqlist, hang, listliketab, paralist.
Environments:	Standard LATEX environments.
minipage, \parbox:	Some HTML5-imposed limitations. Nested minipages are supported. eqparbox, minibox, pbox, shapepar.
Quotations:	copyrightbox, csquotes, epigraph, quoting, verse.
Verbatim:	fancyvrb, moreverb, shortvrb, verbatim.
Frames:	boxedminipage2e, fancybox, framed, mdframed, niceframe, shadow, vertbars.
Multi-columns:	adjmulticol, multicol, multicolrule, vwidth.
Margins:	fullwidth, hanging, midpage.
Line numbering:	fnlineno, lineno.

l warp Supported Functions — continued

Category	Status
Direct formatting:	\emph, \textsuperscript, \textbf, etc are supported. \bfseries, etc. are only supported in some cases. <code>cancel</code> , <code>ellipsis</code> , <code>embrac</code> , <code>enparen</code> , <code>hyphenat</code> , <code>lettrine</code> , <code>lips</code> , <code>lua-check-hyphen</code> , <code>luacolor</code> , <code>magaz</code> , <code>nolbreaks</code> , <code>normalcolor</code> , <code>pdfcol</code> , <code>pdfcolmk</code> , <code>pdfrender</code> , <code>realscripts</code> , <code>resize^{MJ}</code> , <code>scalefont</code> , <code>soul</code> , <code>soulpos</code> , <code>soulutf8</code> , <code>stackengine</code> , <code>textfit</code> , <code>thinsp</code> , <code>trimclip</code> , <code>truncate</code> , <code>ulem</code> , <code>umoline</code> , <code>underscore</code> , <code>uspace</code> , <code>xellipsis</code> .
Acronyms:	<code>acro</code> , <code>acronym</code> .
Ordinals:	<code>engord</code> , <code>fmtcount</code> , <code>nth</code> .
Text ligatures:	Ligatures for symbols are supported. Ligatures for f, q, t are intentionally turned off because many simpler browsers do not display them correctly. Modern full-featured browsers re-create these ligatures on-the-fly.
Horizontal space:	HTML output for thin-unbreakable, unbreakable, \enskip, \quad, \qquad, \hspace.
Rules:	\rule with width, height, raise, text color.
HTML reserved characters:	\&, \textless, and \textgreater are converted to HTML entities.
Fonts:	Used as-is. Appear in SVG math expressions or embedded image environments. <code>fontaxes</code> , <code>nfssext-cfr</code> , <code>slantsc</code> , <code>tabfigures</code> . Tested to work as-is: Special font macros in <code>cfr-lm</code> and others which use <code>nfssext-cfr</code> .
Symbols:	Native L ^A T _E X diacriticals, <code>academicons</code> , <code>bbding</code> , <code>chemgreek</code> , <code>dingbat</code> , <code>euro</code> , <code>eurosym</code> , <code>fontawesome</code> , <code>fontawesome5</code> , <code>gensymb^{MJ}</code> , <code>marvosym</code> , <code>mathcomp^{MJ}</code> , <code>metabot</code> , <code>metalogox</code> , <code>pifont</code> , <code>textalpha</code> , <code>textcomp</code> , <code>textgreek</code> , <code>typicons</code> , <code>xunicode</code> .
Files:	<code>attachfile</code> , <code>attachfile2</code> , <code>hyperxmp</code> , <code>inputrc</code> , <code>intopdf</code> , <code>pdffiles</code> , <code>pdfx</code> , <code>xmpincl</code> .

l warp Supported Functions — continued

Category	Status
Science and engineering:	algorithm2e, algorithmicx, ar ^{MJ} , askmaps, axodraw2, bitpattern, blochsphere, bodegraph, bohr, bytefield, chemfig, chemformula, chemgreek, chemmacros, chemnum, circuitikz, econometrics ^{MJ} , elements, engtlc ^{MJ} , fast-diagram, ghsystem, hepnicenames, heppennames, karnaughmap, karnaugh-map, listings, linop, mhchem ^{MJ} , pgfgantt, phfqit, physics ^{MJ} , physunits ^{MJ} , qcircuit, register, simpler-wick, slashed ^{MJ} , steinmetz ^{MJ} , structmech, struktex, tikz-karnaugh, tikzcodeblocks
Arts and humanities:	foreign, forest, lyluatex, musicography, nameauth, octave, phonrule, piano, schemata, semantic-markup, tikz-dependency, vowel, xpiano
Admonitions:	awesonebox, notes.
Editorial:	changebar, changelog, changes, easy-todo, easyReview, ed, errata, fixme, fixmetodonotes, pdfcomment ^{MJ} , pdfmarginpar, todo, todonotes, tram, xchangebar.
Accessibility:	accessibility ^{MJ} , accsupp ^{MJ} , axessibility ^{MJ} , pdfcomment ^{MJ} , tagpdf.
Package handling:	catoptions.
Debug:	chkfloat, cmdtrack, dprogress, lua-visual-debug, refcheck, srcltx, srctex, vpe, xbmks.
Working as-is:	Various utility, calculation, file, and text-only packages, such as calc, fileerr, somedefs, trace, xspace. Also, most math-only packages, including specialized typesetting for various fields of science and engineering.

3 Alternatives

Summarized below are several other ways to convert a L^AT_EX or other document to HTML. Where an existing L^AT_EX document is to be converted to HTML, lwarp may be a good choice. For new projects with a large number of documents, it may be worth investigating the alternatives before decided which path to take.

3.1 internet class

Cls `internet` The closest to lwarp in design principle is the `internet` class by Andrew Stacey—an interesting project which directly produces several versions of markdown, and also HTML and EPUB. <https://github.com/loopspace/latex-to-internet>

3.2 TEX4HT

Prog `TeX4ht` <http://tug.org/tex4ht/>
Prog `htlatex`

This system uses native L^AT_EX processing to produce a DVI file containing special commands, and then uses additional post-processing for the HTML conversion by way of numerous configuration files. In some cases lwarp provides a better HTML conversion, and it supports a different set of packages. TeX4ht produces several other forms of output beyond HTML, including ODT and a direct path to EPUB, and is still being developed.

3.3 Translators

These systems use external programs to translate a subset of L^AT_EX syntax into HTML. Search for each on CTAN (<http://ctan.org>).

Prog	Hevea	H^Ev^Fa: http://hevea.inria.fr/ (not on CTAN)
Prog	TtH	T_TH: http://hutchinson.belmont.ma.us/tth/
Prog	GELLMU	GELLMU: http://www.albany.edu/~hammond/gellmu/
Prog	LaTeXML	L^ATeXML: http://dlmf.nist.gov/LaTeXML/
Prog	Plastex	PlasTeX: https://github.com/tiarno/plastex
Prog	LaTeX2HTML	L^ATeX2HTML: http://www.latex2html.org/ and http://ctan.org/pkg/latex2html .
Prog	TeX2page	TeX2page: http://ds26gte.github.io/tex2page/index.html

Finally, GladTeX may used to directly insert L^AT_EX math into HTML:

Prog `GladTeX` **GladTeX:** <http://humenda.github.io/GladTeX/>

3.4 ASCII DOC and ASCIIDOCTOR

AsciiDoc is one of the most capable markup languages, providing enough features to produce the typical technical-writing document with cross-references, and it writes LATEX and HTML.

Prog AsciiDoc **Asciidoc:** <http://asciidoc.org/> (More active.)

Prog AsciiDoctor **AsciiDoc:** <http://asciidoc.org/> (The original project.)

3.4.1 ASCIIDOCTOR-LATEX

The Asciidoc-LaTeX project is developing additional LATEX-related features.

Asciidoc-LaTeX:

<http://www.noteshare.io/book/asciidoc-latex-manual>

<https://github.com/asciidoc/asciidoc-latex>

3.5 PANDOC

Prog Pandoc A markup system which also reads and writes LATEX and HTML.

Pandoc: <http://pandoc.org/>

(Watch for improvements in cross-references to figures and tables.)

3.6 Word processors

Prog Word It should be noted that the popular word processors have advanced through the years in their abilities to represent math with a LATEX-ish input syntax, unicode math fonts, and high-quality output, and also generate HTML with varying success. See recent developments in MICROSOFT® *Word*® and LIBREOFFICE™ *Writer*.

3.7 Commercial systems

Prog Adobe Likewise, several professional systems exist whose abilities have been advancing in the areas of typesetting, cross-referencing, and HTML generation. See ADOBE® *FrameMaker*®, ADOBE *InDesign*®, and MADCAP *Flare*™.

Prog InDesign

Prog Flare

Prog Madcap

3.8 Comparisons

AsciiDoc, Pandoc, and various other markup languages typically have a syntax which tries to be natural and human-readable, but the use of advanced features tends to

require many combinations of special characters, resulting in a complicated mess of syntax. By contrast, L^AT_EX spells things out in readable words but takes longer to type, although integrated editors exist which can provide faster entry and a graphic user interface. For those functions which are covered by the typical markup language it is arguable that L^AT_EX is comparably easy to learn, while L^AT_EX provides many more advanced features where needed, along with a large number of pre-existing packages which provide solutions to numerous common tasks.

Text-based document-markup systems share some of the advantages of L^AT_EX vs. a typical word processor. Documents formats are stable. The documents themselves are portable, work well with revision control, do not crash or become corrupted, and are easily generated under program control. Formatting commands are visible, cross-referencing is automatic, and editing is responsive. Search/replace with regular expressions provides a powerful tool for the manipulation of both document contents and structure. Markup systems and some commercial systems allow printed output through a L^AT_EX back end, yielding high-quality results especially when the L^AT_EX template is adjusted, but they lose the ability to use L^AT_EX macros and other L^AT_EX source-document features.

The effort required to customize the output of each markup system varies. For print output, L^AT_EX configuration files are usually used. For HTML output, a css file will be available, but additional configuration may require editing some form of control file with a different syntax, such as XML. In the case of lwarp, css is used, and much HTML output is adjusted through the usual L^AT_EX optional macro parameters, but further customization may require patching L^AT_EX code.

The popular word processors and professional document systems each has a large base of after-market support including pre-designed styles and templates, and often include content-management systems for topic reuse.

4 Installation

Table 3 shows the tools which are used for the L^AT_EX to HTML conversion. In most cases, these will be available via the standard package-installation tools.

Detailed installation instructions follow.

Table 3: Required software programs

Provided by your L^AT_EX distribution:

From T_EXLive: <http://tug.org/texlive/>.

L^AT_EX: *pdflatex*, *xelatex*, or *lualatex*.

The l warp package: This package.

The *lwarpmk* utility: Provided along with this package. This should be an operating-system executable in the same way that *pdflatex* or *latexmk* is. It is possible to have the l warp package generate a local copy of *lwarpmk* called *lwarpmk.lua*. See table 4.

***luatex*:** Used by the *lwarpmk* program to simplify and automate document generation.

***xindy*:** The *xindy* program is used by l warp to create indexes. On a MiK^TE_X system this may have to be acquired separately, but it is part of the regular installer as of mid 2015.

***latexmk*:** Optionally used by *lwarpmk* to compile L^AT_EX code. On a MiK^TE_X system, *Perl* may need to be installed first.

***pdfcrop*:** Used to pull images out of the L^AT_EX PDF.

POPPLE_R PDF utilities:

***pdftotext*:** Used to convert PDF to text.

***pdfseparate*:** Used to pull images out of the L^AT_EX PDF.

***pdftocairo*:** Used to convert images to SVG.

These might be provided by your operating-system package manager, and MiK^TE_X provides *miktex-poppler-bin-** packages.

From POPPLER: poppler.freedesktop.org.

For MACOS®, see <https://brew.sh/>, install *Homebrew*, then

Enter ⇒ **brew install poppler**

For WINDOWS, see Mik^TE_X *miktex-poppler-bin-**, or:

<https://sourceforge.net/projects/poppler-win32/> and:

<http://blog.alivate.com.au/poppler-windows/>

Perl:

This may be provided by your operating-system package manager, and may be required for some of the POPPLER PDF utilities.

strawberryperl.com (recommended), perl.org

Automatically downloaded from the internet as required:

MATHJAX: Optionally used to display math. From: mathjax.org

4.1 Installing the l warp package

There are several ways to install l warp. These are listed here with the preferred methods listed first:

Pre-installed: Try entering into a command line:

Enter ⇒ `kpsewhich l warp.sty`

If a path to l warp.sty is shown, then l warp is already installed and you may skip to the next section.

TEX Live: If using a TEX Live distribution, try installing via `tlmgr`:

Enter ⇒ `tlmgr install l warp`

MiKTEX:

1. For newer versions of MiKTEX, install or update l warp using the *MiKTeX Console* program.
2. For older versions of MiKTEX, to install l warp the first time, use the *MiKTeX Package Manager (Admin)*. To update l warp, use *MiKTeX Update (Admin)*.
3. Either way, also update the package `miktex-misc`, which will install and update the `lwarpmk` executable.

Operating-system package: The operating-system package manager may already have l warp, perhaps as part of a set of TEX-related packages.

CTAN TDS archive: l warp may be downloaded from the Comprehensive TEX Archive:

1. See <http://ctan.org/pkg/l warp> for the l warp package.
2. Download the TDS archive: `l warp.tds.zip`
3. Find the TEX local directory:

TEX Live:

Enter ⇒ `kpsewhich -var-value TEXMFLOCAL`

MiKTEX:

In the **Settings** window, **Roots** tab, look for a local TDS root.

This should be something like:

`/usr/local/texlive/texmf-local/`

4. Unpack the archive in the TDS local directory.
5. Renew the cache:

Enter ⇒ `mktexlsr`

— or —

Enter ⇒ `texhash`

Or, for WINDOWS MiKTEX, start the program called *MiKTeX Settings (Admin)* and click on the button called **Refresh FNDB**.

CTAN .dtx and .ins files: Another form of TEX package is .dtx and .ins source files. These files are used to create the documentation and .sty files.

1. See <http://ctan.org/pkg/lwarp> for the l warp package.
2. Download the zip archive l warp.zip into your own l warp directory.
3. Unpack l warp.zip.
4. Locate the contents l warp.dtx and l warp.ins
5. Create the .sty files:
Enter ⇒ **pdflatex l warp.ins**
6. Create the documentation:

```
pdflatex l warp.dtx (several times)
makeindex -s gglo.ist -o l warp.gls l warp.glo
makeindex -s gind.ist l warp.idx
pdflatex l warp.dtx (several times)
```

7. Copy the .sty files somewhere such as the T E X Live local tree found in the previous CTAN TDS section, under the subdirectory:
 <texlocal>/tex/latex/local/l warp
8. Copy l warp_baseline_marker.png and l warp_baseline_marker.eps to the same place as the .sty files.
9. Copy the documentation l warp.pdf to a source directory in the local tree, such as:
 <texlocal>/doc/local/l warp
10. Renew the cache:
 Enter ⇒ **mktexlsr**
 — or —
 Enter ⇒ **texhash**
Or, for WINDOWS MiK T E X, start the program called *MiK T E X Settings (Admin)* and click on the button called **Refresh FNDB**.
11. See section 4.2.1 to generate your local copy of l warpmk.
12. Once the local version of l warpmk.lua is installed, it may be made available system-wide as per section 4.2.

Project-local CTAN .dtx and .ins files: The .dtx and .ins files may be downloaded to a project directory, then compiled right there, alongside the document source files. The resultant *.sty and l warpmk.lua files may be used as-is, so long as they are in the same directory as the document source. The files l warp_baseline_marker.png and l warp_baseline_marker.eps must also be copied as well. This approach is especially useful if you would like to temporarily test l warp before deciding whether to permanently install it.

Just testing!

4.2 Installing the l warpmk utility

(Note: If l warpmk is not already installed, it is easiest to use a local copy instead of installing it system-wide. See section 4.2.1.)

After the l warp package is installed, you may need to setup the l warpmk utility:

1. At a command line, try executing **lwarpmk**. If the *lwarpmk* help message appears, then *lwarpmk* is already set up. If not, it is easiest to generate and use a local copy. See section 4.2.1.
2. For MiK_TE_X, try updating the *miktex-misc* package. This may install the *lwarpmk* executable for you.

Otherwise, continue with the following:

3. Locate the file *lwarpmk.lua*, which should be in the *scripts* directory of the TDS tree. On a *TEX Live* or MiK_TE_X system you may use

Enter ⇒ **kpsewhich lwarpmk.lua**

(If the file is not found, you may also generate a local copy and use it instead. See section 4.2.1.)

4. Create *lwarpmk*:

Unix: Create a symbolic link and make it executable:

- (a) Locate the *TEX Live* binaries:

Enter ⇒ **kpsewhich -var-value TEXMFROOT**

This will be something like:

/usr/local/texlive/<year>

The binaries are then located in the *bin/<arch>* directory under the root:

/usr/local/texlive/<year>/bin/<architecture>/

In this directory you will find programs such as *pdflatex* and *makeindex*.

- (b) In the binaries directory, create a new symbolic link from the binaries directory to *lwarpmk.lua*:

Enter ⇒ **ln -s <pathtolwarpmk.lua> lwarpmk**

- (c) Make the link executable:

Enter ⇒ **chmod 0755 lwarpmk**

WINDOWS *TEX Live*: Create a new *lwarpmk.exe* file:

- (a) Locate the *TEX Live* binaries as shown above for UNIX.

- (b) In the binaries directory, make a *copy* of *runscript.exe* and call it *lwarpmk.exe*. This will call the *copy* of *lwarpmk.lua* which is in the *scripts* directory of the distribution.

WINDOWS MiK_TE_X: Create a new *lwarpmk.bat* file:

- (a) Locate the MiK_TE_X binaries. These will be in a directory such as:

C:\Program Files\MiK_TE_X 2.9\miktex\bin\x64

In this directory you will find programs such as *pdflatex.exe* and *makeindex.exe*.

- (b) Create a new file named *lwarpmk.bat* containing:

*texlua "C:\Program Files\MiK_TE_X 2.9\scripts\lwarpmk.lua" %**

This will call the *copy* of *lwarpmk.lua* which is in the *scripts* directory of the distribution.

4.2.1 Using a local copy of *lwarpmk*

It is also possible to use a local version of *lwarpmk*:

1. When compiling the tutorial in section 5, use the `lwarpmk` option for the `lwarf` package:

```
\usepackage[lwarpmk]{lwarf}
```

2. When the tutorial is compiled with `pdflatex`, the file `lwarpmk.lua` will be generated along with the other configuration files.
3. `lwarpmk.lua` may be used for this project:

Unix:

- (a) Make `lwarpmk.lua` executable:

```
Enter ⇒ chmod 0755 lwarpmk.lua
```

- (b) Compile documents with

```
Enter ⇒ ./lwarpmk.lua html
```

```
Enter ⇒ ./lwarpmk.lua print
```

etc.

- (c) It may be useful to rename or link to a version without the `.lua` suffix.

WINDOWS:

Compile documents with either of the following, depending on which command shell is being used:

```
Enter ⇒ texlua lwarpmk.lua html
```

```
Enter ⇒ texlua lwarpmk.lua print
```

etc.

Or:

```
Enter ⇒ lwarpmk html
```

```
Enter ⇒ lwarpmk print
```

etc.

4.3 Installing additional utilities

To test for the existence of the additional utilities:

Enter the following in a command line. If each programs' version is displayed, then that utility is already installed. See table 3 on page 70.

```
Enter ⇒ luatex --version
Enter ⇒ xindy --version
Enter ⇒ latexmk --version
Enter ⇒ perl --version
Enter ⇒ pdfcrop --version
Enter ⇒ pdftotext -v
Enter ⇒ pdfseparate --version
Enter ⇒ pdftocairo -v
```

To install *xindy*, *latexmk*, and *pdfcrop*:

The TeX utilities *xindy*, *latexmk*, and *pdfcrop* may be installed in *TexLive* with *tlmgr*, installed by *MiKTeX*, provided by your operating system's package manager, or downloaded from the *CTAN* archive:

<http://ctan.org/pkg/xindy>
<http://ctan.org/pkg/latexmk>
<http://ctan.org/pkg/pdfcrop>

Prog [requirement] pdftotext **To install the POPPLER utilities to a UNIX/LINUX system:**

Prog [requirement] pdfseparate
 Prog [requirement] pdftocairo
 The tools from the POPPLER project should be provided by your operating system's package manager.

To install the POPPLER utilities to a MACOS machine:

1. Install *Homebrew* from <https://brew.sh/>:

```
/usr/bin/ruby -e "$(curl -fsSL https://raw.githubusercontent.com/Homebrew/install/master/install)"
```

2. Install the POPPLER utilities:

Enter ⇒ **brew install poppler**

To install the POPPLER utilities to a WINDOWS machine:

If using MikTEX, install a *miktex-poppler-bin-** package. Otherwise:

1. See table 3 on page 70.
2. Download and extract the POPPLER utilities *pdftotext*, *pdfseparate*, and *pdfcrop* to a directory, such as Poppler.
3. In the **Start** window, type "Path" to search for results related to Path. Or, open the control panel and search for "Path".
4. Choose **Edit the system environment variables** in the control panel.
5. Choose the **Environment Variables** button.
6. Choose the **Path** variable, then the **Edit** button.
7. Choose the **New** button to make an additional entry.
8. Enter the bin directory of the POPPLER utilities, such as:
 C:\Users\<myname>\Desktop\Poppler\poppler-0.5_x86\poppler-0.5\bin
 Be sure to include \bin.
9. Click **Ok** when done.

Prog [requirement] perl **To install PERL to a WINDOWS machine:**

1. Download and install a version of PERL, such as STRAWBERRY PERL, to a directory without a space in its name, such as C:\Strawberry.
2. Edit the **Path** as seen above for the POPPLER utilities.
3. Enter the bin directory of the *perl* utility, such as:
 C:\Strawberry\perl\bin
 Be sure to include \bin.
4. Click **Ok** when done.

Any utilities installed by hand must be added to the PATH.

5 Tutorial

This section shows an example of how to create an `lwarp` document.

Need help?

See the [General Index](#) for “how-to”, and the [Troubleshooting Index](#) if something doesn’t work. A [Troubleshooting](#) section is also available. The [Index of Objects](#) contains automated entries for each package, macro, environment, counter, boolean, and other objects; individually and also sorted by category.

5.1 Starting a new project

1. Create a new project directory called `tutorial`.
- File `tutorial.tex`
2. Inside the `tutorial` directory, create a new file called `tutorial.tex`. This may be done several ways:

Copy from the documentation PDF:

A listing is in fig. 1, which may be copied/pasted from the figure directly into your own editor, depending on the quality of the PDF viewer and editor, or:

Copy from the `lwarp` documentation directory:

Another copy may be found by entering into a command line:

Enter ⇒ `texdoc -l lwarp_tutorial.txt`

This should be in the `doc/latex/lwarp/` directory along with this PDF documentation. Copy `lwarp_tutorial.txt` directly into your `tutorial` directory, renamed as `tutorial.tex`.

⚠ **Bad formatting!**

When using Windows, use an editor other than Notepad, since Notepad does not accept the end-of-line from a UNIX text file.

3. Compile the project:

Enter ⇒ `pdflatex tutorial.tex`
(several times)

(`xelatex` or `lualatex` may be used as well. `lwarp` also supports DVI `latex` for use with .eps images.)
4. View the resulting `tutorial.pdf` with a PDF viewer.

A number of new files are created when `tutorial.tex` is compiled, as shown in table 4. These files are created by the `lwarp` package.

(Two of the new files are configuration files for the helper program `lwarpmk`. Whenever a print version of the document is created, the configuration files for `lwarpmk` are updated to record the operating system, L^AT_EX engine (`latex`, `pdflatex`, `xelatex`, or `lualatex`), the filenames of the source code and HTML output, and whether the additional helper program `latexmk` will be used to compile the document.)

Figure 1: tutorial.tex listing

Note: There are two pages!

```
% Save this as tutorial.tex for the lwarp package tutorial.

\documentclass{book}

\usepackage{iftex}

% --- LOAD FONT SELECTION AND ENCODING BEFORE LOADING LWARP ---

\ifPDFTeX
\usepackage{lmodern}           % pdflatex or dvi latex
\usepackage[T1]{fontenc}
\usepackage[utf8]{inputenc}
\else
\usepackage{fontspec}          % XeLaTeX or LuaLaTeX
\fi

% --- LWARP IS LOADED NEXT ---
\usepackage[
%   HomeHTMLfilename=index,      % Filename of the homepage.
%   HTMLfilename={node-},        % Filename prefix of other pages.
%   IndexLanguage=english,       % Language for xindy index, glossary.
%   latexmk,                   % Use latexmk to compile.
%   OSWindows,                 % Force Windows. (Usually automatic.)
%   mathjax,                   % Use MathJax to display math.
]{lwarp}
% \boolfalse{FileSectionNames} % If false, numbers the files.

% --- LOAD PDFLATEX MATH FONTS HERE ---

% --- OTHER PACKAGES ARE LOADED AFTER LWARP ---
\usepackage{makeidx} \makeindex
\usepackage{xcolor}           % (Demonstration purposes only.)
\usepackage{hyperref,cleveref} % LOAD THESE LAST!

% --- LATEX AND HTML CUSTOMIZATION ---
\title{The Lwarp Tutorial}
\author{Some Author}
\setcounter{tocdepth}{2}       % Include subsections in the \TOC.
\setcounter{secnumdepth}{2}     % Number down to subsections.
\setcounter{FileDepth}{1}       % Split \HTML files at sections
\booltrue{CombineHigherDepths} % Combine parts/chapters/sections
\setcounter{SideTOCDepth}{1}    % Include subsections in the side\TOC
\HTMLTitle{Webpage Title}     % Overrides \title for the web page.
\HTMLAuthor{Some Author}       % Sets the HTML meta author tag.
\HTMLLanguage{en-US}          % Sets the HTML meta language.
\HTMLDescription{A description.}% Sets the HTML meta description.
\HTMLFirstPageTop{Name and \fbox{HOMEPAGE LOGO}}
\HTMLPageTop{\fbox{LOGO}}
\HTMLPageBottom{Contact Information and Copyright}
\CSSfilename{lwarp_sagebrush.css}
```

```

\begin{document}

\maketitle % Or titlepage/titlingpage environment.

% An article abstract would go here.

\tableofcontents % MUST BE BEFORE THE FIRST SECTION BREAK!
\listoffigures

\chapter{First chapter}

\section{A section}

This is some text which is indexed.\index{Some text.}

\subsection{A subsection}

See \cref{fig:withtext}.

\begin{figure}\begin{center}
\fbox{\textcolor{blue!50!green}{Text in a figure.}}
\caption{A figure with text\label{fig:withtext}}
\end{center}\end{figure}

\section{Some math}

Inline math: $r = r_0 + vt - \frac{1}{2}at^2$  

followed by display math:  

\begin{equation}
a^2 + b^2 = c^2
\end{equation}

\begin{warpprint} % For print output ...
\cleardoublepage % ... a common method to place index entry into TOC.
\phantomsection
\addcontentsline{toc}{chapter}{\indexname}
\end{warpprint}
\ForceHTMLPage % HTML index will be on its own page.
\ForceHTMLTOC % HTML index will have its own toc entry.
\printindex

\end{document}

```

Table 4: Configuration files created by print version

tutorial.pdf: The PDF output from L^AT_EX. The print version of the document.

tutorial_html.tex: A small .tex file used to create a parallel HTML version of the document, which co-exists with usual the PDF version, and which will have its own auxiliary files. In this way, both PDF and HTML documents may co-exist side-by-side.

Auxiliary files: The usual L^AT_EX files .aux, .log, .out, .toc, .lof, .idx. When an HTML version of the document is created, _html versions of the auxiliary files will also be generated.

lwarpmk.conf: A configuration file for *lwarpmk*, which is used to automate the compilation of PDF or HTML versions of the document.

tutorial.lwarpmkconf: Another configuration file used by *lwarpmk*, which is only useful if you wish to have several projects residing in the same directory.

.css files: lwarp.css, lwarp_formal.css, lwarp_sagebrush.css These files are standard for lwarp, and are not meant to be modified by the user.

sample_project.css: An example of a user-customized css file, which may be used for project-specific changes to the lwarp defaults.

lwarp.ist: Used by lwarp while creating an index using *makeindex*. This file should not be modified by the user. A custom file may be used instead, if necessary.

lwarp.xdy: Used by lwarp while creating an index using *xindy*. This file should not be modified by the user. A custom file may be used instead, if necessary.

lwarp_one_limage.txt: For WINDOWS only. Used to process SVG images in the background. Copied to lwarp_one_limage.cmd when images are generated.

lwarp_mathjax.txt: Inserted into the HTML files when MATHJAX is used to display math. This file should not be modified by the user.

comment.cut: A temporary file used by lwarp to conditionally process blocks of text. This file may be ignored.

When the *lwarpmk* option is given to the *lwarp* package:

lwarpmk.lua: A local copy of the *lwarpmk* utility.

On UNIX-related operating systems this file must be made executable:

```
chmod u+x lwarpmk.lua
```

This may be useful to have to archive with a project for future use.

5.2 Compiling the print version with *lwarpmk*

The *lwarpmk* utility program is used to compile either the printed or the HTML version of the document.

`lwarpmk print` is used to recompile a printed version of the document.

1. Re-compile the print version:

Enter ⇒ **`lwarpmk print`**

lwarpmk prints an introduction then checks to see if the document must be recompiled. If it seems that the files are up-to-date, then *lwarpmk* informs you of that fact and then exits.

2. Make a small change in the original document, such as adding a space character.
3. Recompile again.

Enter ⇒ **`lwarpmk print`**

The document is recompiled when a change is seen in the source. Several compilations may be necessary to resolve cross-references.

4. Force a recompile to occur.

Enter ⇒ **`lwarpmk again`**

Enter ⇒ **`lwarpmk print`**

lwarpmk again updates the date code for the file, triggering a recompile the next time the document is made.⁵

5. Process the index.⁶ ⁷

Enter ⇒ **`lwarpmk printindex`**

6. Recompile again to include the index.

Enter ⇒ **`lwarpmk print`**

7. To force a single recompile when needed, even if no changes were detected:

Enter ⇒ **`lwarpmk print1`**

Note that the HTML customization commands are ignored while making the print version.

⁵Although, when using the utility *latexpmk* (introduced later), the changed date is ignored and an actual change in contents must occur to cause a recompile.

⁶The command `lwarpmk printglossary` is also available to process a glossary produced with the *glossaries* package. See section 8.6.12.

⁷Also see section 8.6.15 for index options.

5.3 Compiling the HTML version with *lwarpmk*

`lwarpmk html` is used to recompile an HTML version of the document.

1. Compile the HTML version:

Enter ⇒ **lwarpmk html**

- (a) *lwarpmk* uses L^AT_EX to process `tutorial_html.tex` to create `tutorial_html.pdf`.
- (b) *pdftotext* is then used to convert to the file `tutorial_html.html`. This file is a plain-text file containing HTML tags and content for the entire document.
- (c) *lwarpmk* manually splits `tutorial_html.html` into individual HTML files according to the HTML settings. For this tutorial, the result is `tutorial.html` (the home page), along with `First-chapter.html`⁸, `Some-math.html`, and the document's index in `_Index.html`.⁹

2. View the HTML page in a web browser.

Open the file `tutorial.html` in a web browser.

math

Note that math is still displayed as its alt tag, which is the plain-text L^AT_EX source, until the images of the math expressions have been generated. Math may be displayed as SVG images or by a MATHJAX script, as seen in sections 5.4 and 5.5.

3. Force a recompile:

Enter ⇒ **lwarpmk again**

Enter ⇒ **lwarpmk html**

Enter ⇒ **lwarpmk print**

4. Process the HTML index and recompile:¹⁰¹¹

Enter ⇒ **lwarpmk htmlindex**

Enter ⇒ **lwarpmk html**

`_Index.html` is updated for the new L^AT_EX index.

5. Reload the web page to see the added index.

6. To force a single recompile when needed, even if no changes were detected:

Enter ⇒ **lwarpmk html1**

⁸`First-chapter.html` also contains the first section, even though the second section is its own HTML page. This behavior is controlled by the boolean `CombineHigherDepths`.

⁹`index.html` is commonly used as a homepage, so the document index is in `_Index.html`.

¹⁰The command `lwarpmk htmlglossary` is also available to process a glossary produced with the `glossaries` package. See section 8.6.12.

¹¹Also see section 8.6.15 for index options.

5.4 Generating the svg images

math as svg images By default lwarf represents math as svg images, with the L^AT_EX source included in alt attributes. In this way, the math is displayed as it was drawn by L^AT_EX, and the L^AT_EX source may be copied and pasted into other documents.

picture and Tikz lwarf uses the same mechanism for picture and Tikz environments.

1. Create the svg images:

Enter ⇒ **lwarpmk limages**

Enter ⇒ **lwarpmk html**

2. Move to the tutorial's HTML math page and reload the document in the browser.
3. The math images are displayed using the same font and formatting as the printed version.
4. Copy/paste a math expression into a text editor to see the L^AT_EX source.

⚠️ adding/removing

When a math expression, picture, or Tikz environment is added or removed, the svg images must be re-created by entering **lwarpmk limages** to maintain the proper image-file associations. Inline svg math may be hashed and thus not need to be recreated, but display math and objects such as Tikz may move to new image numbers when the document is changed.

recompile first

Before attempting to create the svg image files, *lwarpmk* verifies that the HTML version of the document exists and has correct internal image references.¹² If it is necessary to recompile the document's HTML version one more time, *lwarpmk* usually will inform the user with an error message, but there are some conditions which cannot be detected, so the user should watch for the L^AT_EX recompile warnings.

⚠️ HTML instead of images

If HTML appears where an svg image should be, recompile the document one more time to get the page numbers back in sync, then remake the images one more time.

⚠️ page counter

Incorrect svg images will also occur if the document changes the page counter:

```
\setcounter{page}{<value>}
```

The page counter must *not* be adjusted by the user.

Expressing math as svg images has the advantage of representing the math exactly as L^AT_EX would, but has the disadvantage of requiring an individual file for each math expression. For inline math, and some other objects, lwarf uses an MD5 hash on its L^AT_EX source to combine multiple instances of identical inline expressions into a single image file, but display math and other environments such as picture and Tikz require one image file each. For a document with a large amount of math, see section 5.5 to use MATHJAX instead.

¹²This becomes important when dealing with a document containing thousands of images.

5.5 Using MATHJAX for math

math with MATHJAX Math may also be represented using the MATHJAX JAVASCRIPT project.

1. In the tutorial's source code, uncomment the `mathjax` package option for `lwarf`:

```
mathjax, % Use MathJax to display math.
```

2. Recompile

Enter ⇒ `lwarfmk html`

3. Reload the math page.

⚠ MATHJAX requirements

MATHJAX requires web access unless a local copy of MATHJAX is available, and it also requires that JAVASCRIPT is enabled for the web page. The math is rendered by MATHJAX. Right-click on math to see several options for rendering, and for copying the LATEX source.

While using MATHJAX has many advantages, it may not be able to represent complex expressions or spacing adjustments as well as LATEX, and it may not support some math-related packages.

5.6 Changing the css style

For a formal css style, add to the preamble:

```
\usepackage{lwarp}
...
\CSSFilename{lwarp_formal.css}
...
\begin{document}
```

For a modern css style, `lwarp_sagebrush.css` is also provided:

```
\CSSFilename{lwarp_sagebrush.css}
```

See section [7.7](#) for more information about modifying the css styling of the document.

5.7 Customizing the HTML output

A number of settings may be made to control the HTML output, including filename generation, automatic compilation, math output, document splitting, meta data, and page headers and footers.

See section [7.6](#) for more information.

5.8 Using *latexmk*

latexmk is a L^AT_EX utility used to monitor changes in source files and recompile as needed.

1. In the tutorial's source code uncomment the *latexmk* option for the *lwarp* package:

`latexmk, % Use latexmk to compile.`

2. Recompile the printed version of the document.

Enter ⇒ **lwarpmk print**

lwarp updates its own configuration files (*lwarpmk.conf* and *tutorial.lwarpmkconf*) whenever the printed version of the document is compiled. These configuration files remember that *lwarpmk* should use *latexmk* to compile the document.

3. Recompile the document.

Enter ⇒ **lwarpmk print**

and/or

Enter ⇒ **lwarpmk html**

Changes are detected by comparing checksums rather than modification times, so *lwarpmk* again will not trigger a recompile, but *latexmk* has a much better awareness of changes than the *lwarpmk* utility does and it is likely to correctly know when to recompile. A recompile may be forced by making a small change to the source, and a single recompile may be forced with:

Enter ⇒ **lwarpmk print1**

and/or

Enter ⇒ **lwarpmk html1**

forced single-pass recompile

5.9 Using X_ELATEX or LuaLATEX

X_ELATEX or LuaLATEX may be used instead of LATEX.

1. Remove the auxiliary files for the project:

Enter ⇒ **lwarfmk cleanall**

2. Use *xelatex* or *lualatex* to compile the printed version a single time.

Enter ⇒ **xelatex tutorial.tex**

— or —

Enter ⇒ **lualatex tutorial.tex**

When the compile occurs, the configuration files for *lwarfmk* are modified to remember which TEX engine was used. X_ELATEX or LuaLATEX will be used for future runs of *lwarfmk*.

3. To recompile the document:

Enter ⇒ **lwarfmk print**

-and-

Enter ⇒ **lwarfmk html**

4. Also remember to update the indexes and recompile again:

Enter ⇒ **lwarfmk htmlindex**

Enter ⇒ **lwarfmk html**

Enter ⇒ **lwarfmk printindex**

Enter ⇒ **lwarfmk print**

5.10 Using DVI LATEX

Traditional DVI LaTeX may also be used along with .eps image files. An SVG version of each image must also be provided. *lwarfmk* may be used to convert image formats.

To convert EPS files to PDF:

Enter ⇒ **lwarfmk epstopdf *.eps** (or a list of files)

To convert PDF files to SVG:

Enter ⇒ **lwarfmk pdftosvg *.pdf** (or a list of files)

⚠ bitmapped fonts See section 7.4 regarding font selection to avoid the use of bitmapped fonts.

5.11 Using a glossary

lwarp supports the `gloss` and `glossaries` packages, although this tutorial does not supply an example.

5.11.1 `gloss` package

See section [8.6.11](#).

5.11.2 `glossaries` package

To process the glossary for the print version:

Enter ⇒ **lwarpmk printglossary**

⚠ (If `makeglossaries` is not found, see section [8.6.12](#).)

To process the glossary for the HTML version:

Enter ⇒ **lwarpmk htmlglossary**

In each case, the document will have to be recompiled afterwards:

Enter ⇒ **lwarpmk html1**

Enter ⇒ **lwarpmk html**

Enter ⇒ **lwarpmk print1**

Enter ⇒ **lwarpmk print**

See section [8.6.12](#) to set options for processing glossaries.

5.12 Cleaning auxiliary files

To remove the auxiliary files .aux, .toc, .lof, .lot, .idx, .ind, .log, and .gl*, and a few others:

Enter ⇒ **lwarfmk clean**

5.13 Cleaning auxiliary and output files

To remove the auxiliary files, and also remove the .pdf and .html files:

Enter ⇒ **lwarfmk cleanall**

5.14 Cleaning the images from the <project>-images directory

The <project>-images directory contains svg images automatically generated for inline and display math, tikz, etc. To remove all the images from the lateximages directory:

Enter ⇒ **lwarfmk cleanimages**

5.15 Converting PDF or EPS images to SVG

HTML cannot display PDF or EPS images, so any external PDF graphics images must be converted to SVG format. *pdftocairo* and *epstopdf* may be used one image at a time, but *lwarfmk* also provides a way to convert PDF or EPS images in bulk:

Enter ⇒ **lwarfmk epstopdf *.eps** (or a list of files)

Enter ⇒ **lwarfmk pdftosvg *.pdf** (or a list of files)

Be sure to always provide SVG files for HTML output.

5.16 Creating HTML from an incomplete compile

During testing it may be useful to finish the HTML conversion even when the document had errors and did not compile successfully. To attempt an HTML conversion of an incomplete document:

Enter ⇒ **lwarfmk pdftohtml [-p project]**

5.17 Processing multiple projects in the same directory

 **xr, xr-hyper, xcite**

It is possible to have several projects in the same directory. *lwarfmk* has an optional parameter which is the document to compile.

To create each project:

Enter ⇒ **pdflatex project_a**

Enter ⇒ **pdflatex project_b**

Each project is given its own configuration file:

`project_a.lwarpmkconf`, `project_b.lwarpmkconf`

To compile each project with `lwarkmk`:

Enter ⇒ **lwarpmk print -p project_a**

Enter ⇒ **lwarpmk print -p project_b**

Enter ⇒ **lwarpmk html -p project_a**

Enter ⇒ **lwarpmk html -p project_b**

To generate each project's images:

Enter ⇒ **lwarpmk limages -p project_a**

Enter ⇒ **lwarpmk limages -p project_b**

To clean each project's images:

Enter ⇒ **lwarpmk cleanlimages -p project_a**

Enter ⇒ **lwarpmk cleanlimages -p project_b**

To clean each project's auxiliary files:

Enter ⇒ **lwarpmk cleanall -p project_a**

Enter ⇒ **lwarpmk cleanall -p project_b**

If using *bibtex*, for example, the HTML version must also be processed:

Enter ⇒ **bibtex project_a.html**

5.18 Using the *make* utility

lwarpmk has an action which may be useful for integration with the common *make* utility:

`lwarpmk pdftohtml [-p project]`

make may be used to compile the code to PDF with HTML tags (`project_html.pdf`), then *lwarpmk* may be used to convert each target to HTML files.

5.19 What next?

How do I do something? See the [General Index](#).

Something do not work! See the [Troubleshooting Index](#) or section 13: [Troubleshooting](#).

Package options: See section 28, [Package options](#).

HTML and filename settings: See section 7.6, [Customizing the HTML output](#).

Footnote placement: See section 7.6, [Customizing the HTML output](#).

Title page, indexing, glossaries: See section 8.6, [Front and back matter](#).

Shell escape: See section 7.3, [Shell escape](#).

css customization: See section 7.7, [Customizing the css](#).

MATHJAX customization: See section 8.7.5, [Customizing MATHJAX](#).

Localization: (languages) — See section 7.1, [Localization](#).

Accessibility: (alt and title tags) — See section 7.2, [Accessibility](#).

Converting an existing document: See section 6, [Converting an existing document](#).

EPUB conversion: See section 10, [EPUB conversion](#).

Word processor conversion: See section 11, [Word-processor conversion](#).

6 Converting an existing document

To convert an existing document for use with l warp:

1. Arrange the document in the following order:
 - (a) Declare the \documentclass.
 - (b) Load text fonts.
 - (c) Load inputenc or inputenx, fontenc, or fontspec.
 - (d) Load l warp.
 - (e) Load remaining packages.
2. Modify the document:
 - (a) If using named HTML files, in section names use paren math $\backslash(x+y\backslash)$ instead of dollar math $\$x+y\$$. (Dollar math works, but appears in the file-name.) Or, use a short name for the toc entry without the math, or use \texorpdfstring:


```
\section{A name with math
    \texorpdfstring{\$1+2=3\$}{text description}}
```
 - (b) Avoid using the \includegraphics scale option. Change:


```
\includegraphics[scale=<xx>]{...}
```

 to:


```
\includegraphics[width=<yy>\linewidth]{...}
```
 - (c) Possible changes to tabular environments include: * columns, multirow, longtable, supertabular, xtab, bigdelim. See section 8.10.1.
 - (d) If using braces in package options, such as with caption, see section 8.1.
 - (e) Possible option clashes with memoir. See section 8.13.
 - (f) If using indexes, see section 8.6.15.
 - (g) If using many indexes, glossaries, . aux files, etc., see section 8.6.15 regarding morewrites. If morewrites is already used, be sure to add the setup with allocate=10.
 - (h) Other changes as per Special cases and limitations, section 8.
3. Convert any PDF images to SVG. See section 8.8.
4. Manually compile the print version with *latex*, *pdflatex*, *lualatex*, or *xelatex*.
5. l warpmk print to finish the print version.
6. l warpmk html to create the HTML version.
7. l warpmk limages to create the SVG images of any SVG math, lateximage, Tikz, etc.

Need help?

See the General Index for “how-to”, and the Troubleshooting Index if something doesn’t work. A Troubleshooting section is also available. The Index of Objects contains automated entries for each package, macro, environment, counter, boolean, and other objects; individually and also sorted by category.

7 Additional details

7.1 Localization

Regional localization is supported by lwarp via the following package options and macros:

Object names: L^AT_EX provides redefinable names for various objects, and lwarp adds a few more. Use \renewcommand to change these.

\abstractname: This macro is honored by lwarp.

\linkhomename: Displayed by the link to the homepage.

\sidetocname: Displayed at the head of the sidetoc.

HTML settings: See table 6 and section 7.6 for details.

\HTMLLanguage: The language to declare for each web page.

\ImageAltText, \MathImageAltText, \PackageDiagramAltText, \AltTextOpen, \AltTextClose: The defaults used for HTML alt text for images. See section 7.2.

\CSSFilename: The name of the css file to use.

\MathJaxFilename: The name of the MATHJAX script to use.

Package options:

ImagesName and ImagesDirectory: These options control the filenames used by lwarp when it automatically generates images. See table 5 and section 7.5.

xindyStyle, xindyLanguage, xindyCodepage: When using *xindy*, these options may be set according to local use. See section 8.6.21.

pdftotextEnc: To adjust the encoding of *pdftotext*.

7.2 Accessibility

lwarp provides several methods for improving access to the document using tools such as text-only browsers, copy / paste, text-to-speech readers, or Braille readers. HTML provides the alt text attribute for images, which is used by lwarp as described below. HTML also provides the title attribute, which usually generates a pop-up text. lwarp can add this to a reference or hyperlink. MATHJAX also has provisions for improved accessibility as well.

\ImageAltText: The default HTML alt text for \includegraphics and \textrm{images}. Set with \renewcommand.

\includegraphics alt key: For \includegraphics, lwarp adds the alt key / value. For example:

```
\includegraphics[alt={Some text.}]{filename}
```

svg math: For simple SVG math, `lwarp` places the L^AT_EX math expression in the alt text, so that the L^AT_EX expression may be copied and pasted to another document as plain text.

\MathImageAltText: For complicated SVG math, such as enclosed in `\InlineMathOther` / `\InlineMathNormal`, or `\DisplayMathOther` / `\DisplayMathNormal`, the HTML alt text will be set to `\MathImageAltText`. Set with `\renewcommand`.

MATHJAX: For MATHJAX, the accessibility tools provided by MATHJAX are enabled by default by `lwarp`'s MATHJAX scripts.

\PackageDiagramAltText: Various packages create diagrams which `lwarp` converts into SVG images. These are given alt text set to `\PackageDiagramAltText`. Set with `\renewcommand`.

custom alt text \ThisAltText: The HTML alt text of the next image may be set with:

```
\ThisAltText{Custom text about the image.}
<SVG math, Tikz, picture, etc.>
```

The next single image will be generated with the given text, and the following images will revert to back to their defaults.

references and links

`\ThisAltText` may also be used to assign an HTML title to the next reference or hyperlink.

```
\ThisAltText{Custom text about the link.}
Text ... \ref{label_name} ... text.
```

See section 7.6.

\AltTextOpen and \AltTextClose: By default, HTML alt text is enclosed by parentheses. This may be changed by redefining `\AltTextOpen` and `\AltTextClose`. Set with `\renewcommand`.

7.3 Shell escape

Opt --shell-escape Some documents require the use of an external program, which is allowed when using the `--shell-escape` command-line option. When the document is first compiled manually, and also whenever the print version is recompiled, `lwarp` detects and remembers whether shell escape is enabled. If so, it will also be enabled when the document is recompiled with `lwarpmk`.

7.4 Font and UTF-8 support

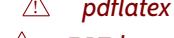
⚠ type 3 bitmapped fonts

`lwarp` uses `pdftotext` to convert PDF output into UTF-8-encoded text. This process requires that UTF-8 information be embedded in the PDF file, which may prevent the use of older “type 3” bit-mapped fonts, and of older packages such as `ae`. The `lwarp` option `pdftotextEnc` may be useful in some situations. See section 7.5.

vector fonts

While using DVI `latex` or PDF `pdflatex`, if no font-related package is specified then the

Computer Modern default COMPUTER MODERN font is used, which may be a “type 3” bit-mapped font which may not convert well to plain text. A “type 1” vector font is required.

**pdflatex****DVI latex**

To use the updated cm-super’s type 1 fonts instead of Computer Modern, install the cm-super font package.

Pkg `lmodern` To use Latin Modern instead, add

```
\usepackage{lmodern}
```

to the preamble.

Pkg `dejavu` Another useful option is the Deja Vu series of fonts, which have an increased coverage of language and glyphs:

```
\usepackage{dejavu}
```

latex, pdflatex, T1, UTF8 While using DVI *latex* or PDF *pdflatex*, l warp automatically loads `fontenc` with T1 encoding. `fontenc` may be loaded with an additional encoding after l warp. `inputenc` is automatically loaded with UTF8 encoding if it has not yet been loaded, but may also be specified with another encoding such as latin1. See the next section regarding index encoding.

**xelatex, lualatex, fontspec**

X_ELATEX and L_AU_LE_TX users must use the `fontspec` package. Do NOT use `fontenc`!

Place `fontspec` or `fontenc`, `xunicode`, and other font and UTF-8 related commands after the `\documentclass` command and before `\usepackage{l warp}`.



In some cases, a package conflict may require that a font package be loaded after l warp, which should work as well:

1. `documentclass{article/book/report}` comes first, followed by any of:

2. Font and UTF-8 related commands:

- For X_ELATEX or L_AU_LE_TX:

Pkg `fontspec`

- `fontspec` and font choices

ligatures

l warp sets the following to turn off TeX ligatures during the generation of HTML tags, and turn off common ligatures in regular text, since older browsers may not display them correctly and newer browsers can automatically re-create them.

```
\defaultfontfeatures[\rmfamily]{Ligatures={NoCommon,TeX}}
\defaultfontfeatures[\sffamily]{Ligatures={NoCommon,TeX}}
\defaultfontfeatures[\ttfamily]{Ligatures=NoCommon}
```

- For *pdflatex*:

Pkg `lmodern`

- (a) `\usepackage{lmodern}`, or other font-related packages

Pkg `fontenc`

- (b) `\usepackage[T1]{fontenc}`

Pkg `inputenc`

- (c) `\usepackage[utf8]{inputenc}`, or latin1, etc. Or use `inputenx`.

Pkg `inputenx`

- (d) `\usepackage{newunicodechar}` along with related definitions.

Pkg `newunicodechar`

- (e) To assist with the PDF-HTML conversion:

- i. `\input glyptounicode.tex`

File `glyptounicode.tex`

- ii. `\input glyptounicode-cmr.tex%` from the `pdfx` package
- iii. `\pdfgentounicode=1`

(f) Another option to assist with the PDF-HTML conversion, such as the dotless j (\j):

- `\usepackage{cmap}` — or —
 - `\usepackage{mmap}` — or —
 - `\usepackage[noTeX]{mmap}`
- Pkg `textcomp` (g) `\usepackage{textcomp}`

3. `\usepackage{l warp}` (section 7.5) is placed after any of the above, followed by:

4. `\usepackage{newtxmath}` or other math-related font packages. Many of these load `amsmath`, which must be loaded after `l warp`, so they must also be loaded after `l warp`.

5. `\setmonofont{TeX Gyre Cursor}` or similar may be required if using X_EL^AT_EX or L_UA_L^AT_EX and `fontspec` along with traditional font packages such as `txfonts`, `newtxtext`, etc. This is required to turn off the monospaced font's ligatures with `fontspec` after loading the traditional font packages. Monospaced output ligatures must be turned off to produce the correct HTML characters.

6. ... the rest of the preamble and the main document.

⚠️ fontspec with monospaced fonts

⚠️ **UTF-8 locale** In some cases, an external program may require a UTF-8 “locale”. See section 9.8.

7.4.1 Indexes, glossaries, and encoding

`l warp` uses the `xindy` program to processes indexes. `xelatex` and `lualatex` use `xindy` and `pdflatex` uses `texindy`.

The `l warp` option `xindyLanguage` may be used to set the language option for `xindy`, and the `xindyCodepage` option may be used to set the codepage option for `xindy`. These are used for index generation.

7.5 l warp package loading and options

l warp supports book, report, and article classes, as well as the equivalent Koma-script classes and memoir, and various CJK-related classes and packages.

Load the l warp package immediately after the font and UTF-8 setup commands.

Package options may be set while loading l warp, or later with

```
\l warpmksetup{<key=value, . . . >}
```

Pkg l warp l warp package options are as follows:

Opt mathsvg **mathsvg**, **mathjax**: For math display, select mathsvg (default) or mathjax. For more information about the math options, see section 8.7.

Opt latexmk **latexmk**: Tells l warpmk to use latexmk to recompile the document several times if necessary. Otherwise, l warpmk attempts to determine for itself whether to recompile. See section 7.6.

Opt dvips **dvips**: Tells l warpmk to use dvips and ps2pdf to convert DVI output to PDF.
Default: false

Opt dvipdfm **dvipdfm**: Tells l warpmk to use dvipdfm to convert DVI output to PDF.
Default: false

Opt dvipdfmx **dvipdfmx**: Tells l warpmk to use dvipdfmx to convert DVI output to PDF.
Default: false

Opt HomeHTMLFilename **HomeHTMLFilename**: See section 7.6.
Default: {}

Opt HTMLFilename **HTMLFilename**: See section 7.6.
Default: {}

Opt ImagesName **ImagesName**: The prefix for the images automatically generated by l warp for objects such as SVG math and lateximages.
Default: image-

Opt ImagesDirectory **ImagesDirectory**: The directory for the images automatically generated by l warp for objects such as SVG math and lateximages. By default, these images will appear in a directory named <jobname>-images, and the images will be named and numbered image-<nn>.
Default: \jobname-images

Opt PrintLatexCmd **PrintLatexCmd**: Sets the shell commands executed by l warpmk print. If not specified, will automatically be set according to the detected LATEX engine and the use of --shell-escape.
Default: <automatic>

Opt HTMLLatexCmd **HTMLLatexCmd**: Sets the shell commands executed by l warpmk html. If not specified, will automatically be set according to the detected LATEX engine and the use of --shell-escape.
Default: <automatic>

Opt makeindex **makeindex**: Sets PrintIndexCmd, HTMLIndexCmd, and LatexmkImageCmd to use makeindex
Default: makeindex

Table 5: lwarp package options

Option	Description
mathsvg	Show math using SVG images.
mathjax	Show math using MATHJAX.
latexmk	Use <i>latexmk</i> for compiling documents.
dvips	Use <i>dvips</i> and <i>ps2pdf</i> to convert DVI documents.
dvipdfm	Use <i>dvipdfm</i> to convert DVI documents.
dvipdfmx	Use <i>dvipdfmx</i> to convert DVI documents.
HomeHTMLFilename	The filename of the home page.
HTMLFilename	A prefix for the filenames of the remaining web pages.
ImagesName	A prefix for the filenames of generated images.
ImagesDirectory	The directory used to hold generated images.
PrintLatexCmd	The shell commands for lwarpmk print .
HTMLLatexCmd	The shell commands for lwarpmk html .
For indexing (section 8.6.15) and glossaries (section 8.6.12):	
makeindex	Use <i>makeindex</i> to generate indices.
xindy	Use <i>xindy</i> to generate indices.
makeindexStyle	Set a custom style for <i>makeindex</i> .
xindyStyle	Set a custom style for <i>xindy</i> .
xindyLanguage	The <i>xindy</i> language option used for index generation.
xindyCodepage	The <i>xindy</i> codepage option used for index generation.
PrintIndexCmd	Shell commands executed by lwarpmk printindex .
HTMLIndexCmd	Shell commands executed by lwarpmk htmlindex .
LatexmkIndexCmd	Shell commands executed by <i>latexmk</i> .
GlossaryCmd	Shell command executed by lwarpmk printglossary and lwarpmk htmlglossary .
Seldom necessary:	
OSWindows	Force compatibility with MS-WINDOWS.
pdftotextEnc	Set the encoding for <i>pdftotext</i> .
lwarpmk	Generate a local copy of <i>lwarpmk.lua</i> .
Used internally by lwarp:	
warpprint	Generate print output, and also generate configuration files.
warpHTML	Generate HTML output.
BaseJobname	The \jobname to use. Set to the \jobname of the printed version even while generating HTML.

when generating indexes with **lwarpmk printindex**, **lwarpmk htmlindex**, or **latexmk**. If neither `makeindex` nor `xindy` is used, `makeindex` is assumed.

Opt `xindy` **xindy:** Sets `PrintIndexCmd`, `HTMLIndexCmd`, and `LatexmkImageCmd` to use *xindy* when generating indexes with **lwarpmk printindex**, **lwarpmk htmlindex**, or **latexmk**.
Default: `makeindex`

Opt `makeindexStyle` **makeindexStyle:** If you wish to use a custom .ist file for index generation, see section 28.
Default: `lwarp.ist`

Opt `xindyStyle` **xindyStyle:** If you wish to use a custom .xdy file for index generation, see section 28.
Default: `lwarp.xdy`

Opt `xindyLanguage` **xindyLanguage:** If using an index or glossary, see section 28.
Default: `english`

Opt `xindyCodepage` **xindyCodepage:** If using an index, see section 28.
Default: `utf8`

Opt `PrintIndexCmd` **PrintIndexCmd:** Sets the shell commands executed by **lwarpmk printindex**. If not specified, will be set by the selection of `makeindex` or `xindy`. May be used to specify the creation of multiple indexes. See section 8.6.15.
Default: <automatic>

Examples:

```
makeindex -s lwarp.ist projectname.idx          (makeindex)
xindy -M lwarp.xdy -L english -C utf8 projectname.idx    (xindy)
```

automatic setting

The use of the `makeindex` or `xindy` options sets `PrintIndexCmd` to sensible values for each of those programs while compiling a single index. `lwarp`'s `makeindexStyle`, `xindyStyle`, `xindyLanguage`, and `xindyCodepage` options will be used if specified.

⚠️ xindy

If specifying `PrintIndexCmd` manually, be sure to assign an *xindy* language and codepage with the `-L` and `-C` *xindy* options, as the `lwarp` `xindyLanguage` and `xindyCodepage` options are not used for the `PrintIndexCmd` option when it is set manually.

This option is stored in the configuration files `lwarpmk.conf` and `*.lwarpmkconf`, and is then passed by the **lwarpmk printindex** command to the operating system to compile the print indexes. Since the command string is parsed by TeX, written to a file, read from the file by LuaTeX, and finally passed to the operating system, any attempt at quoting will be problematic. For complicated commands, it would be best to create a shell script, and simply refer to the script with the `lwarp PrintIndexCmd` option.

Opt `HTMLIndexCmd` **HTMLIndexCmd:** Sets the shell commands executed by **lwarpmk htmlindex**. If not specified, will be set by the selection of `makeindex` or `xindy`. May be used to specify the creation of multiple indexes. See section 8.6.15. **Default:** <automatic>

⚠️ filenames

Example settings are similar to `PrintIndexCmd`, but append `_html` to the filenames:

```
makeindex -s lwarp.ist projectname_html.idx      (makeindex)
xindy -M lwarp.xdy -L english -C utf8 projectname_html.idx (xindy)
```

automatic setting

The use of the `makeindex` or `xindy` options sets `HTMLIndexCmd` to sensible values for each of those programs while compiling a single index. `lwarp`'s `makeindexStyle`, `xindyStyle`, `xindyLanguage`, and `xindyCodepage` options will be used if specified.

⚠️ xindy

If specifying `HTMLIndexCmd` manually, be sure to assign an `xindy` language and codepage with the `-L` and `-C xindy` options, as the `lwarf xindyLanguage` and `xindyCodepage` options are not used for the `HTMLIndexCmd` option when it is set manually.

As with `PrintIndexCmd`, to generate complicated indexes it may be worthwhile to use a shell script, then refer to that script with `HTMLIndexCmd`.

Opt `LatexmkIndexCmd`
Default: `<automatic>`

LatexmkIndexCmd: Sets the shell commands executed by `latexmk`. Unlike `PrintIndexCmd` and `HTMLIndexCmd`, `LatexmkIndexCmd` does not include any filenames, which will be provided instead by `latexmk`. See section 8.6.15.

Example settings are similar to `PrintIndexCmd`, but without a filename:

<code>makeindex -s lwarf.ist</code>	<i>(makeindex)</i>
<code>xindy -M lwarf.xdy -L english -C utf8</code>	<i>(xindy)</i>

automatic setting

The use of the `makeindex` or `xindy` options sets `LatexmkIndexCmd` to either of the two settings show above. `lwarf`'s `makeindexStyle`, `xindyStyle`, `xindyLanguage`, and `xindyCodepage` options will be used if specified. Unlike `PrintIndexCmd` and `HTMLIndexCmd`, `latexmk` uses either of the single-line settings of `LatexmkIndexCmd` shown above to compile each of multiple indexes if necessary.

⚠️ xindy

If specifying `LatexmkIndexCmd` manually, be sure to assign an `xindy` language and codepage with the `-L` and `-C xindy` options, as the `lwarf xindyLanguage` and `xindyCodepage` options are not used for the `LatexmkIndexCmd` option when it is set manually.

Opt `GlossaryCmd`
Default: `makerglossaries`

GlossaryCmd: Sets the shell command executed by `lwarpmk printglossary` and `lwarpmk htmglossary`. The print or HTML glossary filename is appended to this command. See section 8.6.12.

Opt `OSWindows`

OSWindows: `lwarf` attempts to automatically sense WINDOWS, but it may be forced with this option. See section 7.8.

Opt `pdftotextEnc`
Default: `UTF-8`

pdftotextEnc: Used to specify the encoding used by `pdftotext` during the PDF-HTML conversion. In most situations, the default is the correct choice.

Opt `lwarpmk`

lwarpmk: If you wish to have `lwarf` generate a local copy of `lwarpmk.lua` for archival or local-installation purposes, compile the print version with the `lwarpmk` option set. See section 28.

The following options are used internally by `lwarf`, and usually are not used in the user's document:

Opt `warpprint`
Opt `warpHTML`

warpprint and warpHTML: Usually controlled by `lwarpmk`, and not set in the document. Select the `warpprint` option to generate print output (default), or the `warpHTML` option to generate HTML5 output. The default is print output, so the print version may be compiled with the usual `pdflatex`, etc. When `lwarf` is loaded in print mode, it creates `<project>.html.tex`, which sets the `warpHTML` option before calling the user's source code `<project>.tex`. In this way, `<project>.tex` can `\usepackage{lwarf}` without any options to create a printed version, while `<project>.html.tex` will create an HTML version.

Opt BaseJobname **BaseJobname:** Not intended for the user. Used internally by lwarf when creating the *`_html.tex` file used to compile the HTML version. See section 28.
Default: \jobname

7.6 Customizing the HTML output

Table 6 shows several settings may be used to customize the HTML output. Watch for the correct placement of each!

⚠ Placement! Note that if changes are made, it is best to first:

1. Clear all the HTML, PDF, and auxiliary files:

Enter ⇒ **lwarfmk clearall**

2. Recompile the print version in order to recreate the configuration files for *lwarfmk*:

Enter ⇒ **lwarfmk print**

3. Finally, recompile the HTML version with the new settings:

Enter ⇒ **lwarfmk html**

Options for the lwarf package:

Use the following as options for \usepackage[<options>]{lwarf}:

Opt **HomeHTMLFilename**
Default: \BaseJobname

HomeHTMLFilename: Filename of the homepage, without the “.html” suffix. Defaults to the \BaseJobname. A common setting is:

HomeHTMLFilename=index

filename underscores

causing the homepage to be the file index.html. Underscores are allowed in HomeHTMLFilename and HTMLFilename options, but may need to be escaped elsewhere, such as when appearing in a list:

\item [\href{file_name.pdf}{text}] \

See section 7.6.1 for examples of naming and numbering HTML files.

Opt **HTMLFilename**
Default: <empty>

HTMLFilename: A filename prefix for the rest of the HTML web pages. Useful for numbered web pages with a common prefix. May be empty. See section 7.6.1 for examples of naming and numbering HTML files.

Opt **latexmk**
Default: false

latexmk: Controls whether lwarf uses *latexmk* to compile the document. This setting is written to *lwarfmk*'s configuration files.

Opt **mathsvg**
Default: true

mathsvg: Selects SVG display for math output. (The default.)

Opt **mathjax**
Default: false

mathjax: Selects MATHJAX for math output.

Opt **makeindex**

makeindex: Selects *makeindex* for index generation by *lwarfmk*.

Default: **makeindex**

Opt **xindy**

xindy: Selects *xindy* for index generation by *lwarfmk*.

Default: **makeindex**

Placed in the preamble before \begin{document}:

\linkhomename
Default: Home

\linkhomename: Name of the link to the home page. Paragraphs are allowed. Redefine with \renewcommand.

Table 6: HTML settings

Macro/Cntr/Bool	Description
\linkhomename	Name of the link to the homepage.
SideTOCDepth	Sectioning depth of the sidetoc.
\sidetocname	Name of the sidetoc.
FileDepth	Sectioning depth of the file splits.
CombineHigherDepths	Combine higher section levels.
FileSectionNames	Use section names for file names, else use numbers.
\FilenameLimit	Maximum length of the generated filenames.
FootnoteDepth	Sectioning depth of footnotes.
\abstractname	The name of the abstract.
\ImageAltText	\includegraphics and other images' alt tag.
\ThisAltText {<text>}	Assigns an alt/title tag for the next image or link.
\MathImageAltText	The SVG math image \teximage alt tag.
\PackageDiagramAltText	The suffix for a package's \teximage alt tags.
\AltTextOpen	Start an HTML alt tag.
\AltTextClose	End an HTML alt tag.
\CSSFilename	The css for the following files.
\MathJaxFilename	The MathJax script for the following files.
\HTMLLanguage	The HTML lang tag.
\HTMLTitle	The homepage's <title>, overriding \title.
\HTMLTitleBeforeSection	Set subpage <title>s to \HTMLTitle - sectionname
\HTMLTitleAfterSection	Set subpage <title>s to sectionname - \HTMLTitle
\HTMLAuthor	The HTML author meta tag, overriding \author.
\HTMLDescription	The HTML description meta tag.
\HTMLFirstPageTop	Heading for the home page.
\HTMLPageTop	Heading for the other pages.
\HTMLPageBottom	Footing for all pages.
HTMLDebugComments	Boolean to generate HTML comments.

Ctr tocdepth

tocdepth: Sectioning depth of the table of contents. See section 16 for a list of LATEX stack depths.

Ctr SideTOCDepth

Default: 1

SideTOCDepth: Sectioning depth of the sidetoc. Defaults to 1, causing the sidetoc to show sections but not subsections.

sideroc

Each subpage of the website has its own small table of contents on the side (the “sidetoc”). Its depth is set by SideTOCDepth. This sidetoc is only shown if the browser display is wide enough. When using a narrow web browser window, “responsive web design” is used to show the sidetoc at the top of the page, as well as a link back to **Home** at the top and bottom.

It is recommended to set:

```
SideTOCDepth=FileDepth
```

or

```
SideTOCDepth=FileDepth+1
```

⚠️ inaccessible pages

\sidetocname
Default: Contents

\sidetocname: Name of the sidetoc. Paragraphs are allowed. Redefine with \renewcommand.

Ctr FileDepth
Default: -5

FileDepth: Sectioning depth of file splits. Defaults to -5, causing the entire HTML website to be one single file.

- To place the entire file into one HTML page, use:
`\setcounter{FileDepth}{-5}`
- To split the HTML file at \section depth, use:
`\setcounter{FileDepth}{1}`
- To ensure that the HTML pages/files are accessible:
 Place a \tableofcontents somewhere before the first section break (therefore in the “home page”), and set
`tocdepth >= FileDepth`



Bool CombineHigherDepths
Default: true

CombineHigherDepths: Combine a higher section with its first lower subsections, down to the FileDepth. Defaults to true. Set to false to simulate the concept of a chapter opening on its own page, for example.

The file splits are controlled by the counter FileDepth and the boolean CombineHigherDepths. Setting FileDepth to 0 splits the file at chapters, 1 at sections, etc. CombineHigherDepths controls whether to combine pages at levels higher than the chosen FileDepth, such as in this tutorial where the page which opens the chapter also contains the first section. Be careful to set tocdepth and SideTOCDepth to allow access to each page of the website. Set tocdepth and SideTOCDepth to be greater than or equal to FileDepth.

⚠️ Inaccesible pages!

⚠️ Lost in an old page!

When making changes to the file structure, it is possible to end up with the web browser pointing to an old file which is no longer in use. When this occurs, changes to the web site will not appear in the browser, even if reloading the page, because that page is no longer in use. It is best to return to the home page, clean the files (`lwarpmk cleanall`), change FileDepth

and/or `CombineHigherDepths`, then finally recompile and renavigate to the desired page using the new file structure.

`Bool FileSectionNames`
`Default: true`

 **Unique filename!**

FileSectionNames: If true, web page filenames are derived from a sanitized version of the section names. If false, web pages are numbered. Either way, the `HTMLFilename` option is used as a prefix. See section [7.6.1](#) for examples of naming and numbering HTML files. The user must ensure that filenames are unique after begin sanitized. For example, `math` in the section name is removed before creating the filename, so the rest of the filename must be sufficiently unique to avoid name collisions.

`\FilenameLimit`
`Default: 80`

\FilenameLimit: The maximum length of the filenames generated by `lwarp`. `".html"` is added to this length. Redefine with `\renewcommand`.

`Ctr FootnoteDepth`
`Default: 3`

FootnoteDepth: Determines where to place pending footnotes. 3 places footnotes before each break down to the `\subsubsection` level. 1 places footnotes before each `\section` break. Any pending footnotes are also placed at the bottom of each page before each file break.

`Bool HTMLDebugComments`
`Default: false`

HTMLDebugComments: Set true to generate HTML comments, such as which section or `<div>` is being opened or closed.

`\abstractname`
`Default: Abstract`

\abstractname: The name of the abstract. This may also be over-written by the `babel` package. Defaults to `"Abstract"`. Redefine with `\renewcommand`.

Placed before `\begin{document}`, or before any sectioning command which causes a file break:

`\CSSFilename`
`Default: lwarp.css`

\CSSFilename: `{<filename.css>}` Sets the css file to use for the following files. May be changed before each each sectioning command which would cause a file split.

The css styles of the web pages are set by the `\CSSFilename` command. If `\CSSFilename` is not used, a default plain style is used to mimic printed L^AT_EX output. `lwarp_sagebrush.css` is a semi-fancy colored style as shown in this tutorial. Change it to `lwarp_formal.css` for a more formal look, or comment out the `\CSSFilename` command to see the default. `\CSSFilename` may be used before each file break to set the css for individual pages of the website.

`\MathJaxFilename`
`Default: lwarp_mathjax.txt`

\MathJaxFilename: `{<filename>}` Sets the MathJax script file to use for the following files. May be changed before each each sectioning command which would cause a file split.

The MathJax script file is copied into the head of each HTML file. This may be used to point to a local repository, add extensions, or change the script somewhere in the middle of the document. `\MathJaxFilename` may be used before each file break to set the script file for individual pages of the website.

`\HTMLLanguage`
`Default: en-US`

\HTMLLanguage: `{<language>}` The HTML file's HTML lang meta tag. Defaults to en-US.

`\HTMLTitle`
`Default: \thetitle`

\HTMLTitle: `{<title>}` Overrides `\title` for the HTML header's meta title. De-

faults to `\thetitle`, which is set by `\title`, or empty otherwise. Unlike the author, `\thetitle` is set by `\title` even if not using the `titling` package.

`\HTMLTitleBeforeSection`
Default: `\HTMLTitleBeforeSection`

`\HTMLTitleAfterSection`

`custom <title>`

To customize subpage `<title>`s, redefine `\theHTMLTitleSection`, which defaults to:

```
\def\theHTMLTitleSection{%
  \theHTMLTitle\theHTMLTitleSeparator\theHTMLSection%
}
```

`\HTMLAuthor`
Default: `\theauthor`

`\HTMLAuthor: {<author>}` The HTML header's meta author. Defaults to `\theauthor`, which is set by `\author` if using the `titling` package, but is empty otherwise. There are several ways to represent the author and affiliations, especially if using the `authblk` package, most of which do not result in a sensible `\theauthor`, so `\HTMLAuthor` is useful to create a list of authors without their affiliations.

`\HTMLDescription`
Default: `<empty>`

`\HTMLDescription: {<description>}` Sets the HTML description tag for the following files. May be changed before each sectioning command which would cause a file split.

`\HTMLFirstPageTop`
Default: `<empty>`

`\HTMLFirstPageTop: {<contents>}` A user-definable custom action applied to the top of the home page. Useful for logos, etc. Defaults empty. Ignored in print output.

`\HTMLPageTop`
Default: `<empty>`

`\HTMLPageTop: {<contents>}` A user-definable custom action applied to the top of pages other than the home page. Useful for logos, etc. Defaults empty. `\LinkHome` may be used to place a link back to the homepage. Ignored in print output.

`\HTMLPageBottom`
Default: `<empty>`

`\HTMLPageBottom: {<contents>}` A user-definable custom action applied to the bottom of each web page. Useful for authors, copyright notices, contact information, etc. Defaults empty. `\LinkHome` may be used to place a link back to the homepage. Ignored in print output.

Placed in the home page before the first sectioning command which causes a file break:

`\tableofcontents`
⚠ TOC on the homepage!

`\tableofcontents:` Used to place a table of contents on the home page. This command must be used before the first file split, so that a way is available to navigate to other files from the homepage.

Links to each chapter/section are provided, as selected by `tocdepth`.

Placed in the document wherever necessary:

`\ImageAltText`
Default: `image`

`\ImageAltText:` Redefine with `\renewcommand`. `\includegraphics` and other images are assigned an HTML alt tag according to `\ImageAltText` along

with `\AltTextOpen` and `\AltTextClose`. This text is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is “image”, and it may be changed according to the document’s language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following `\includegraphics` and other images.

`\ThisAltText`

`\ThisAltText:` `{<text>}` `\ThisAltText` can be used to assign an HTML alt text attribute to the next image generated by a `lateximage`, `picture`, `tikzpicture`, or any other similar environment which generates an image, or the next SVG math expression. This tag is cleared after use. The tag is also cleared after each MATHJAX expression, in case the user changes between SVG math and MATHJAX.

`\ThisAltText` also may be used to add an HTML title to a reference or hyperlink, such as a `\ref`, `\cref`, `\href`, `\url`, `\hyperref`, or `\hyperlink`. In each case, the alternative text is cleared after use.

`\MathImageAltText`
Default: `math image`

`\MathImageAltText:` Redefine with `\renewcommand`. When creating an SVG math image, its HTML alt tag may be set to the math expression, which may be hashed for image reuse. In the case of `\ensuremath` or after `\inlinemathother`, where the contents require a unique image for each instance of the same expression, the alt tag is set to `\MathImageAltText`, along with `\AltTextOpen` and `\AltTextClose`, and the image is not reused.

This alt expression is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is “math image”, and it may be changed according to the document’s language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following SVG math images.

`\PackageDiagramAltText`
Default: `diagram`

`\PackageDiagramAltText:` Redefine with `\renewcommand`. For many packages, the output is placed inside a `lateximage` with an HTML alt tag set to the package name followed by `\PackageDiagramAltText`. For example:

`(-xy- diagram)`

This expression is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is “diagram”, and may it be changed according to the document’s language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following package diagrams.

`\AltTextOpen`
Default: `(`
`\AltTextClose`
Default: `)`

`\AltTextOpen:` Redefine with `\renewcommand`.

`\AltTextClose:` Redefine with `\renewcommand`. HTML alt text is enclosed by the macros `\AltTextOpen` and `\AltTextClose`, which default to an opening and closing parenthesis.

Env `warpprint`

`warpprint:` An environment which is only used while generating print output. Place inside anything which does not apply to HTML and which may cause problems with `lwarp`. If `lwarp` knows about and emulates or supports a package then its related macros, lengths, counters, etc. probably won’t have to be placed inside a `warpprint` environment, but unknown packages may cause problems which may be isolated from `lwarp` using this environment.



Do not place anything else on the same line as \end{warpprint}.

Env warpHTML

warpHTML: An environment which is only used while generating HTML output.
This is useful for website logos and other items which have no purpose in printed output.



Do not place anything else on the same line as \end{warpHTML}.

\warpprintonly

\warpprintonly: {{contents}} A macro version of the warpprint environment.

\warpHTMLonly

\warpHTMLonly: {{contents}} A macro version of the warpHTML environment.

7.6.1 Example HTML file naming

Examples of ways to name or number HTML files:

Numbered HTML nodes:

Example: Homepage index.html, and node-1, node-2.¹³

```
\usepackage[
    HomeHTMLFilename=index,
    HTMLFilename={node-}
]{lwarp}
\boolfalse{FileSectionNames}
```

Named HTML sections, no prefix:

Example: index.html, and About.html, Products.html

```
\usepackage[
    HomeHTMLFilename=index,
    HTMLFilename={}
]{lwarp}
\booltrue{FileSectionNames}
```

Named HTML sections, with prefix:

Example: Homepage mywebsite.html, and additional pages such as mywebsite-About.html, mywebsite-Products, etc.

```
\usepackage[
    HomeHTMLFilename=mywebsite,
    HTMLFilename={mywebsite-}
]{lwarp}
\booltrue{FileSectionNames}
```

7.7 Customizing the css

\CSSFilename {<filename>}

Default: lwarp.css

¹³See \SetHTMLFileName to number in groups by chapter, for example.

\CSSFilename may be used to choose which .css file is used to display each page of the web site. Use \CSSFilename before \begin{document} to assign the style of the home page. If different parts of the website should have different styles, call \CSSFilename again before each section heading which creates a new file. This may be changed numerous times throughout the file, resulting in different HTML pages having different css files assigned:

```
...
\CSSFilename{myCSS.css}
\chapter{Another Chapter}
...
```

The styles provided by lwarp include:

lwarp.css: A default style if \CSSFilename is not used. This style is comparable to a plain LATEX document. To set this style, you may use \CSSFilename{lwarp.css}, or no \CSSFilename call at all.

lwarp_formal.css: A formal style with a serif fonts and a traditional look.

lwarp_sagebrush.css: A style with muted colors, gradient backgrounds, additional borders, and rounded corners.

To see each style in use, change the \CSSFilename entry in the tutorial, lwarpmk html again, and then reload the tutorial webpage.

Custom css A customized style may also be created. For each new project a file called sample_project.css is generated. This may be renamed to <project>.css then used by assigning \CSSFilename{<project>.css}.

⚠ Rename it! Note that sample_project.css is overwritten whenever lwarp is loaded in print mode. It is therefore important to rename the file to something like <project>.css before using it, so that your own changes are not overwritten.

<project>.css has an entry which loads lwarp.css, and this entry may be changed to load lwarp_formal.css or lwarp_sagebrush.css if desired. Additional changes to the css may be made by making entries later in the <project>.css file.

File lwarp.css File project.css File sample_project.css	It is best to make a local project-specific css file such as project.css, containing only things which are different from lwarp.css. The file project.css should refer to lwarp.css as follows:
---	---

```
/* ( --- Start of project.css --- ) */
/* ( --- A sample project-specific CSS file for lwarp --- ) */

/* Uncomment one of the following: */
@import url("lwarp.css") ;
/* @import url("lwarp_formal.css") ; */
/* @import url("lwarp_sagebrush.css") ; */

/* Project-specific CSS setting follow here. */
```

```
/* . . . */

/* ( --- End of project.css --- ) */
```

Finally use \CSSFilename{<project>.css} in the document to activate the custom CSS.

7.8 Selecting the operating system

Prog Unix	lwarp tries to detect which operating system is being used. UNIX / MAC OS / LINUX is the default (collectively referred to as “UNIX” in the configuration files), and MS-WINDOWS is supported as well.
Prog Mac OS	
Prog Linux	
Prog MS-Windows	If MS-WINDOWS is not correctly detected, use the lwarp option OSWindows.
Prog Windows	
Opt OSWindows	When detected or specified, the operating-system path separator used by lwarp is modified, and the boolean usingOSWindows is set true. This boolean may be tested by the user for later use.

7.9 Selecting actions for print, HTML, or MATHJAX output

The following environments and macros are used to select actions which only apply to either traditional L^AT_EX print-formatted PDF generation, or to HTML generation, or to HTML with MATHJAX.

For most of built-in L^AT_EX and many additional packages there is user-level source code support or emulation, so no special handling will be required. For those cases which lwarp does not handle by itself, the following environments and macros may be used to isolate sections of code for print-only or HTML-only.

These environments are also useful for creating a special version of the titlepage for print and another for HTML.

Env warpHTML	Anything which is to be done only for HTML5 output is surrounded by a warpHTML environment:
--------------	---

```
\begin{warpHTML}
... something to be done only during \HTML\ generation
\end{warpHTML}
```

 **\end{warpHTML}** Do *not* place anything else on the same line as \end{warpHTML}. The exact phrase is used to mark the end of the environment.

Env warpprint	Anything which is to be done only for print output is surrounded by a warpprint environment:
---------------	--

```
\begin{warpprint}
  ... something to be done only during traditional \PDF\ generation
\end{warpprint}
```

 `\end{warpprint}` As above, do not place anything else on the line with `\end{warpprint}`.

`Env` `warpall` Anything which is to be done for any output may be surrounded by a `warpall` environment. Doing so is optional.

```
\begin{warpall}
  ... something to be done during print \PDF\ or \HTML\ output
\end{warpall}
```

As above, do not place anything else on the line with `\end{warpall}`.

Macros are also provided for print-only or HTML-only code:

`\warpprintonly {<actions>}`

Performs the given actions only when print output is being generated.

`\warpHTMLonly {<actions>}`

Performs the given actions only when HTML output is being generated.

`Env` `warpMathJax` Anything which is to be done only while using HTML output with MATHJAX is surrounded by a `warpMathJax` environment. Usually, this is `\CustomizeMathJax`, used to add emulation macros.

7.10 Commands to be placed into the `warpprint` environment

Certain print-related commands should always be placed inside a `warpprint` environment, or may need other special handling. These are unrelated to HTML output, but are hard to isolate automatically. For example:

- Paragraph formatting: `\parindent \parskip`
- Manual page positions such as the `textpos` package, which is emulated but only in a limited way.
- Anything changing the page counter. `lwarp` requires that the page counter not be adjusted during HTML output.

Some packages require additional setup commands. Where these packages are emulated for HTML, setup commands may work for the emulated HTML output as well as for print output. See the details for each package in this document for more information.

Also see section 13: [Troubleshooting](#).

7.11 Title page

In the preamble, place an additional block of code to set the following:

```
\title{Document Title} % One line only
\author{Author One\affiliation{Affiliation One} \and
        Author Two\affiliation{Affiliation Two} }
\date{Optional date}
```

The title is used in the meta tags in the `HTML` files, unless overridden by `\HTMLTitle`, and the rest are used in `\maketitle`. To use a `\subtitle` or `\published` field, see section 66.8.

`\maketitle` Use `\maketitle` just after the `\begin{document}`, as this will establish the title of the homepage. Optionally, use a `titlepage` environment instead.

`Env titlepage` The `titlepage` environment may be used to hold a custom title page. The `titlepage` will be set in a `<div>` class `titlepage`, and `\printtitle`, etc. may be used inside this environment.

`Env titlingpage` Another form of custom title page, where `\maketitle` is allowed, and additional information may be included as well.

`\title {\langle title\rangle}`

⚠ **HTML corrupted** Avoid newlines in the `\title`; these will interfere with the file break and css detection.

⚠ **newlines** Use a `\subtitle` command instead (section 66.8). The title will appear in the document `\maketitle` as a heading `<h1>`. The `HTML` meta `title` tag will also have this title, unless `\HTMLTitle` is used to set the meta title to something else instead.

`\author {\langle author\rangle}`

In `\author`, `\protect` may be needed before some formatting commands. In `HTML`, the author will appear in a `<div>` of class `author` in the `\maketitle`. If the `titling` package is used, the author will also appear in a `HTML` meta tag, but `\HTMLAuthor` may be necessary to create a plain list of names if `\author` had affiliations added. `\affiliation` is a new addition to `lwarf`.

`\date {\langle date\rangle}`

`\date` works as expected. In `HTML`, this will appear in a `<div>` class `titledate`.

`\thanks {\langle text\rangle}`

`\thanks` are allowed in the `titlepage` fields, and will be rendered as `HTML` notes at the bottom of the title page.

7.12 HTML page meta descriptions

`\HTMLDescription {\langle A description of the web page.\rangle}`
Default: (none)

limitations Each page of HTML output should have its own HTML meta description, which usually shows up in web search results, is limited to around 150 characters in length, and should not include the ASCII double quote character (").

placement Use \HTMLDescription just before \begin{document} to set the description of the home page, and also just before each sectioning command such as \chapter or \section where a new file will be generated, depending on FileDepth. For example, if FileDepth is 1, use \HTMLDescription just before each \section command, and that description will be placed inside the HTML page for that \section. The same description will be used for all following HTML files as well, until reset by a new \HTMLDescription. It is best to use a unique description for each HTML file.

disabling To disable the generation of HTML description meta tags, use:

```
\HTMLDescription{}
```

7.13 HTML homepage meta title

\HTMLTitle {\langle title\rangle}

Default: \HTMLtitle{\thetitle}

Sets the contents of the web page <meta name="title"> element. May be set empty to cancel the meta title tag.

See section 7.6 for \HTMLTitleBeforeSection and \HTMLTitleAfterSection, used to set the title for HTML subpages.

7.14 HTML page meta author

\HTMLAuthor {\langle author\rangle}

Default: \HTMLAuthor{\theauthor}

Sets the contents of the web page <meta name="author"> element. May be set empty to cancel the meta author tag.

\author may be used to create a list of authors and their affiliations, in several formats if using authblk, and these may not successfully parse properly into a sensible list for \theauthor. \HTMLAuthor may be used to set the meta tag to a simple list of names.

8 Special cases and limitations

Some commonly-used L^AT_EX expressions should be modified as follows to allow for a smooth conversion to both HTML and print-formatted outputs.

Need help?

See the [General Index](#) for “how-to”, and the [Troubleshooting Index](#) if something doesn’t work. A [Troubleshooting](#) section is also available. The [Index of Objects](#) contains automated entries for each package, macro, environment, counter, boolean, and other objects; individually and also sorted by category.

8.1 Things to avoid

In the document, avoid the following:



options with braces

Package options: Package options may cause problems with l warp, especially if they include curly braces.

If selecting options with braces in \usepackage does not work:

```
\usepackage[font={it,small}]{caption}% does not work
... try instead selecting the package options before loading l warp:
\PassOptionsToPackage{font={it,small}}{caption}
...
\usepackage{l warp}
...
\usepackage{caption}
```

... or try setting package options after the package has been loaded:

```
\usepackage{caption}
\captionsetup{font={it,small}}
```

page counter: Do not adjust the page counter. If doing so is required for the print version, place the adjustment inside a warpprint environment.

Custom math environment macros: Do not use expressions such as \beq as a replacement for \begin{equation}.

Custom macros in section, figure, table names: Custom macros which appear in sectioning commands or float captions then appear in the .toc, .lof, and .lot lists, and should be made robust using \newrobustcmd or \robustify from xetoolbox, xparse, etc.

When setting FileSectionNames to true to name the HTML files from the section names, the file names are created from sanitized versions of the chapter or section names, but the section names must be plain text or something which expands into plain text. Robust macros will not work at the sectioning level which is used for file names, but a robust macro or other complicated name may be used for the mandatory argument of \chapter, \section, etc., if a plain-text version is also included in the optional argument:

```
\chapter[Plain Name]{\ARobustMacro{Fancy Name}}
```

8.1.1 Invalid HTML

Additionally, some objects are valid L^AT_EX, but invalid HTML. An example is a tabular inside \textbf{, since HTML does not allow a table inside a span. l warp will create the table, and the browser may support it, but the result is technically invalid.

8.2 Formatting

8.2.1 Text formatting

⚠ **\bfseries, etc.** \textbf{, etc. are supported, but \bfseries, etc. work only in some situations.

⚠ **HTML special chars** &, <, and > have special meanings in HTML. If \&, \textless, and \textgreater are used, proper HTML entities will be used, but there may be HTML parsing problems if these special characters occur unescaped in program listings or other verbatim text.

program listings For program listings, the listings package is supported, and its literate option is used to convert &, <, and > to proper HTML entities.

verbatim The various verbatim-related environments do not convert &, <, and >, so care must be taken to avoid accidentally including valid HTML code inside these environments. Adding a space on either side may be sufficient.

8.2.2 Horizontal space

\hspace \hspace is converted to an inline HTML span of the given width, except that 0 width is ignored, a width of .16667em is converted to an HTML thin breakable space (U+2009), and a \fill is converted to a \quad.

\, \~ and \, are converted to HTML entities.

\kern \kern and \hskip are entered into the HTML PDF output as-is, then interpreted by **\hskip** *pdftotext*, and thus usually appear as a single space.

8.2.3 Text alignment

Use the environments center, flushright, flushleft instead of the macros \centering, \raggedright, \raggedleft.

⚠ **figure & table alignment** \centering, etc. are honored in a figure or table if they are the first command inside the float:

```
\begin{table*}
\centering
\caption{A Table}
...

```

8.2.4 Accents

Native L^AT_EX accents such as \^ will work, but many more kinds of accents are available when using Unicode-aware X^EL^AT_EX and LuaL^AT_EX.

8.2.5 textcomp package

Pkg textcomp Some textcomp symbols do not have Unicode equivalents, and thus are not supported.

 **missing symbols** Many textcomp symbols are not supported by many system/browser fonts. In the css try referencing fonts which are more complete, but expect to see gaps in coverage.

8.2.6 Superscripts and other non-math uses of math mode

Use x instead of \$^{x}\$

8.2.7 Empty \item followed by a new line of text or a nested list:

lists Use a trailing backslash: \item[label] \

8.2.8 Filenames and urls in lists or footnotes

filename underscore Escape underscores in the filenames:

```
\item[\href{file\_name.pdf}{text}]
```

8.2.9 relsize package

Pkg relsize For HTML, only the inline macros are supported: \textlarger, \textsmaller, and \textscale. Each becomes an inline span of a modified font-size.

\relsize, \larger, \smaller, and \relscale are ignored.

While creating SVG math for HTML, the original definitions are temporarily restored, and so should work as expected.

 **not small** The HTML browser's setting for minimum font size may limit how small the output will be displayed.

8.3 Boxes and minipages

8.3.1 Marginpars

- \marginpar [⟨left⟩] {⟨right⟩} \marginpar may contains paragraphs, but in order to remain inline with the surrounding text l warp nullifies block-related macros inside the \marginpar. Paragraph breaks are converted to
 tags.
- \marginparBlock [⟨left⟩] {⟨right⟩} To include block-related macros, use \marginparBlock, which takes the same arguments but creates a <div> instead of a . A line break will occur in the text where the \marginBlock occurs.

8.3.2 Save Boxes

⚠ **HTML corrupted**

⚠ **boxes**

TEX boxes are placed inline and do not allow line breaks, so boxes with long contents may overflow the line during HTML conversion. l warp uses methods which help avoid this problem.

⚠ **minipage, \parbox** \savebox and related do not (yet) support minipage or \parbox.

8.3.3 Minipages

⚠ **inline**

A line of text with an inline minipage or \parbox will have the minipage or \parbox placed onto its own line, because a paragraph is a block element and cannot be made inline-block.

placement

minipages and \parboxes will be placed side-by-side in HTML unless you place a \newline between them.

side-by-side

Side-by-side minipages may be separated by \quad, \quad, \enskip, \hspace, \hfill, or a \rule. When inside a center environment, the result is similar in print and HTML. Paragraph tags are suppressed between side-by-side minipages and these spacing commands, but not at the start or end of the paragraph.

⚠ **minipage in a span**

There is limited support for minipages inside an HTML . An HTML <div> cannot appear inside a . While in a , minipages, and \parboxes, and any enclosed lists have limited HTML tags, resulting in an “inline” format, without markup except for HTML breaks. Use \newline or \par for an HTML break.

⚠ **minipage size**

When using minipage, \parbox, and fminipage, a virtual 6 × 9 inch text area is used for \linewidth, \textwidth, and \textheight, both for sizing the minipage, and also for its contents.

if width is \linewidth

If a minipage or \parbox is assigned a width of exactly \linewidth, in HTML it is automatically given no HTML width, thus allowed to fill the line as needed, similar to how it appears in print output.

full-width if HTML

A new macro \minipagefullwidth requests that, during HTML output, the next single minipage or \parbox be generated without an HTML width attribute, allowing it to be

the full width of the display rather than the declared print-output width. This may be useful where the printed version's width makes no sense in HTML.

- ⚠ **tabular, multicols** Inside a `tabular` or `multicols` environment, where the width depends on the browser window, `\minipagefullwidth` is effectively used by default for every `minipage` or `\parbox` inside the environment. `\UseMinipageWidths` may be used to tell `lwarp` to honor the specified widths of all following `minipages` and `\parboxes` until the end of the local scope, and `\IgnoreMinipageWidths` may be used to tell `lwarp` to ignore the specified widths.
- ⚠ **multicol** Inside a `multicols`, `\linewidth` is divided by the specified number of columns.
- ⚠ **text alignment** Nested `minipages` adopt their parent's text alignment in HTML, whereas in regular L^AT_EX PDF output they do not. Use a `flushleft` or similar environment in the child `minipage` to force a text alignment.

8.3.4 Side-by-side minipages

Place side-by-side minipages inside a `center` environment, with horizontal space between them, such as `\quad`, `\quad\quad`, `\hspace`, or `\hfill`. The result is similar in print and HTML. Do not use space commands at the start or end of the line.

8.3.5 Framed minipages and other environments

`\fbox` can only be used around inline `` items during HTML output, but HTML cannot place a block element such as a `<div>` for a minipage or a list inside of a ``. Several options are provided for framing an object, depending on which kind of object and which packages are loaded:

- `\fbox` For a framed object, options include:
- `\fboxBlock`
- `Env` `fminipage`
- To remove the frame in HTML output:** Place the `\fbox` command and its closing brace inside `warpprint` environments. This will nullify the frame for HTML output.
- To frame the contents inline with some formatting losses in HTML:** This is the default action of `\fbox` when enclosing a `minipage`. During HTML output, `\fbox` nullifies the HTML tags for `minipage`, `\parbox`, and lists. The contents are included as inline text inside the `\fbox`'s `` of class `framebox`. For lists, line breaks are converted to HTML breaks. The result is a plain-text inline version of the contents, framed inline with the surrounding text, but lacking any extra HTML markup.
- To frame the contents on their own line with improved formatting in HTML:** A new command `\fboxBlock` is included, intended to be a direct replacement for `\fbox` for cases where the `\fbox` surrounds a `minipage`, `table`, or `list`. For print output, this behaves as `\fbox`. For HTML output, the contents are placed inside an HTML `<div>` with the class `framed`, resulting in the contents being placed on their own line with a frame surrounding them. The contents preserve their HTML formatting, so lists and minipages look nicer, and valid HTML is created for a

For inline `minipage` and `lists`:

tabular. While an \fbox containing a tabular is valid L^AT_EX code, the result in HTML is problematic since a table is a <div> not a , so use \fboxBlock around a tabular, or else place the tabular inside a minipage, or use fminipage, described next. Also see below regarding the “Misplaced alignment tab character &.” error.

For display tabular,
minipages, and lists:

To create a framed minipage in both print and HTML: A new environment fminipage is included. For print output, this is identical to minipage, except that it is also framed. For HTML output, this forms a <div> of class framed, the contents preserve their HTML formatting, and valid HTML is created for a tabular. Also see section 85 for a new environment fcolorminipage. Also see below regarding the “Misplaced alignment tab character &.” error.

colored boxes and frames:

To create colored frames and boxes: See section 570 for xcolor’s \colorbox and \fcolorbox, and l warp’s additional \colorboxBlock and \fcolorboxBlock.

To frame tables or verbatim environments: Place the contents inside a fminipage, or perhaps a \fboxBlock for a tabular. Also, if using \fboxblock with tabular, you will have to use \StartDefiningTabulars before the start of the macro which uses \fboxBlock and the tabular, and \StopDefiningTabulars afterwards. Also see the l warp documentation for the fancybox package.

To frame equations: See section 234 for the fancybox package.

For fancy framed minipages: See packages boxedminipage2e, shadow, fancybox, framed, mdframed.

Custom environments: Use a custom environment to create a sidebar, containing a BlockClass environment with custom css formatting, and \warpprintonly{\hrule} command:

```
\begin{BlockClass}{frameminipage}% ignored in print output
    % use \CSS\ to format div class framedminipage
    \warpprintonly{\hrule} % only appears in print output
    Contents
    \warpprintonly{\hrule} % only appears in print output
\end{BlockClass}
```

8.3.6 fancybox package

Pkg fancybox
framed equation example

fancybox’s documentation has an example FramedEqn environment which combines math, \Sbox, a minipage, and an \fbox. This combination requires that the entire environment be enclosed inside a lateximage, which is done by adding \latexitimage at the very start of FramedEqn’s beginning code, and \endlatexitimage at the very end of the ending code. Unfortunately, the HTML alt attribute is not used here.

```
\newenvironment{FramedEqn}
{
\latextimage% NEW
\setlength{\fboxsep}{15pt}
. . . }{. . .
\[\fbox{\TheSbox}\]}
\endlatextimage% NEW
}
```

framing alternatives \fbox works with **fancybox**. Also see lwarp's \fboxBlock macro and fminipage environment for alternatives to \fbox for framing environments.

framed table example The **fancybox** documentation's example framed table using an \fbox containing a tabular does not work with lwarp, but the **FramedTable** environment does work if \fbox is replaced by \fboxBlock. This method loses HTML formatting. A better method is to enclose the table's contents inside a fminipage environment. The caption may be placed either inside or outside the fminipage:

```
\begin{table}
\begin{fminipage}{\linewidth}
\begin{tabular}{lr}
. . .
\end{tabular}
\end{fminipage}
\end{table}
```

⚠️ framed verbatim lwarp does not support the verbatim environment inside a span, box, or fancybox's \Sbox, but a verbatim may be placed inside a fminipage. The **fancybox** documentation's example **FramedVerb** may be defined as:

```
\newenvironment{FramedVerb}[1] % width
{
\VerbatimEnvironment
\fminipage{#1}
\begin{Verbatim}
\end{Verbatim}
\end{fminipage}
}
```

framed \VerbBox **fancybox**'s \VerbBox may be used inside \fbox.

indented alignment LVerbatim, \LVerbatimInput, and \LUseVerbatim indent with horizontal space which may not line up exactly with what **pdftotext** detects. Some lines may be off slightly in their left edge.

8.3.7 mdframed package

Pkg **mdframed** **support** Most basic functionality is supported, including frame background colors and single-border colors and thickness, title and subtitle background colors and borders and

thickness, border radius, and shadow. CSS classes are created for `mdframed` environments and frame titles.

 **loading** When used, `l warp` loads `mdframed` in HTML with `framemethod=none`.

font For title font, use

```
frametitlefont=\textbf,
```

instead of

```
frametitlefont=\bfseries,
```

where `\textbf` must appear just before the comma and will receive the following text as its argument (since the text happens to be between braces in the `mdframed` source). Since `l warp` does not support `\bfseries` and friends, only one font selection may be made at a time.

theoremtitlefont `theoremtitlefont` is not supported, since the following text is not in braces in the `mdframed` source.

ignored options `userdefinedwidth` and `align` are currently ignored.

css classes Environments created or encapsulated by `mdframed` are enclosed in a `<div>` of class `mdframed`, and also class `md<environmentname>` for new environments.

Frame titles are placed in a `<div>` of class `|mdframedtitle|`. Subtitles are in a `<div>` of class `|mdframedsubtitle|`, and likewise for subsubtitles.

8.4 Section names

If using named HTML files, by selecting `\booltrue{FileSectionNames}`, the generated filenames may be simplified by using `\FilenameSimplify` and `\FilenameNullify`:

`\FilenameSimplify \{\langle text \rangle\}`

To remove common short words from the automatically-generated filenames, replacing each with a single hyphen “-”, use `\FilenameSimplify`:

```
\FilenameSimplify*{-in-}
\FilenameSimplify*{A-}
```

The first example removes the word “in” in the middle of a filename, and the second example removes “A” at the start of the filename. The star forces the arguments to be detokenized, which is required for a plain-text comparison. (The unstarred form is used for a token-sensitive comparison, which is seldom required by the user.) After simplification, repeated hyphen characters will be further simplified to a single hyphen “-”. Finally, single hyphens at the start or end of the filename are removed.

`\FilenameNullify \{\langle macros \rangle\}`

 **macros in section names** Macro names may appear in the automatically-generated file names. To remove these, create *non-robust* nullified versions of the macros, ensuring that each line ends with a

percent character % as shown below. These are placed inside \FilenameNullify, which adds them to the list of macros which are nullified during filename generation. Low-level macros such as \begingroup will cause problems when nullified. Many macros such as \textbf are already nullified. lwarp also already nullifies built-in symbol and textcomp macros, including if defined by xunicode, but not all xunicode macros. See the definition of \LWR@nullfonts for a complete list.

```
\FilenameNullify{%
  \renewcommand*{\macroname}[1]{#1}%
  \renewcommand*{\anothermacro}{}%
}
```

- ⚠ **duplicate filename** Avoid duplicate file names. Section names at levels which result in HTML file splits must be unique. lwarp will generate an error if a duplicate HTML filename is generated. Use the optional toc caption entry parameter for formatting. Remember to \protect \LaTeX commands which appear in section names and TOC captions.
- ⚠ **math in section names** If using named HTML files, in section names use paren math `\(x+y\)` instead of dollar math `$x+y$`. (Dollar math works, but appears in the filename.) Or, use a short name for the TOC entry without the math, or use \texorpdfstring:

```
\section{A name with math
\texorpdfstring{$1+2=3$}{text description}}
```

8.5 Cross-references

- labels
- ⚠ **label characters** Labels with special characters may be a problem. It is best to stick with alpha-numeric, hyphen, underscore, and perhaps the colon (if not French).
- \nameref
- ⚠ **empty link** \nameref refers to the most recently-used section where the \label was defined. If no section has been defined before the \label, the link will be empty. Index entries also use \nameref and have the same limitation.

8.5.1 Page references

- ⚠ **\LaTeX page numbers** The printed page does not translate to the HTML page, so \pageref references are converted to parentheses containing \pagerefPageFor, which defaults to “see”, followed by a hyperlink to the appropriate object.

Ex:

`\ref{sec:name} on page \pageref{sec:name}`
in HTML becomes:
“Sec. 1.23 on page (see sec. 1.23)”.

\pagerefPageFor may be redefined to “page for”, empty, etc. See page 477.

8.5.2 cleveref and varioref packages

Pkg cleveref cleveref and varioref are supported, but printed page numbers do not map to HTML,
Pkg varioref

- ⚠ **cleveref page numbers**

so a section name or a text phrase are used for `\cpageref` and `\cpagerefrange`. This phrase includes `\cpagerefFor`, which defaults to “for”.

Ex:

```
\cpageref{tab:first,tab:second}
in html becomes:
“pages for table 4.1 and for table 4.2”
```

See `\cpagerefFor` at page 551 to redefine the message which is printed for page number references.

8.5.3 Hyperlinks, `hyperref`, and `url`

`Pkg hyperref` lwarf emulates `hyperref`, including the creation of active hyperlinks, but does not require that `hyperref` be loaded by the document.

`Pkg url`

⚠ **comments between arguments** Do not place a comment with a % character between arguments for `\hyperref`, etc., as it is neutralized for inclusion in HTML URLs.

lwarf can also load `url`, but `url` should not be used at the same time as `hyperref`, since they both define the `\url` command. lwarf does not (yet) attempt to convert `url` links into hyperlinks during HTML output, nor does the print version of `url` create hyperlinks.

⚠ **backref** When generating HTML, lwarf’s emulation of `hyperref` does not automatically load `backref`, so `backref` must be loaded explicitly.

8.5.4 Footnotes, endnotes, and page notes

lwarf uses native L^AT_EX footnote code, although with its own `\box` to avoid the L^AT_EX output routine. The usual functions mostly work as-is.

footnote numbering To have footnote numbers reset each time footnotes are printed:

```
\setcounter{footnoteReset}{1}
```

For `bigfoot`, `manyfoot`, or `perpage`:

```
\MakePerPage{footnoteX}
— or —
\MakeSortedPerPage{footnoteX}
```

The footnotes are reset when they are printed, according to section level as set by `\FootnoteDepth`, which is not necessarily by HTML page. This is recommended for `\alph`, `\Alph`, or `\fnsymbol` footnotes, due to the limited number of symbols which are available.

⚠ **MathJax**, `\footnotemark` If using MATHJAX, after each math expression with a `\footnotemark`, adjust the footnote counter by the number of `\footnotemarks`:

```
\[ (math expression with two instances of \footnotemark) \]
\warpHTMLonly{\addtocounter{footnote}{2}}
```

Similarly for endnotes, but *not* sidenotes.

Also for MATHJAX, \footnotename is used for a \footnotemark if the actual footnote number is not known. To redefine it, provide it before loading l warp:

```
\providecommand{\footnotename}{something}
\usepackage{l warp}
```

Similar for sidenotes. For endnotes:

```
\def\endnotename{something}% \def allows name to start with "end"
```

For the pagenote package, there is no \pagenotename to define, since there is no \pagenotemark command.

footmisc The footmisc stable option is emulated by l warp.

⚠ sectioning commands When using footnotes in sectioning commands, to generate consistent results between print and HTML, use the footmisc package with the stable option, provide a short toc entry, and \protect the \footnote:

```
\usepackage[stable]{footmisc}
...
\subsection[Subsection Name]
{Subsection Name\protect\footnote{A footnote.}}
```

memoir with footmisc If using memoir class, with which l warp preloads footmisc, the stable option must be declared before l warp is loaded:

```
\PassOptionsToPackage{stable}{footmisc}
\usepackage{l warp}
...
```

Do not use a starred sectioning command. As an alternative, it may be possible to adjust \secnumdepth instead.

If using fancybox or fancyverb with \VerbatimFootnotes, and using footnotes in a sectioning command or display math, use \footnotemark and \footnotetext:

```
\subsection[Subsection Name]
{Subsection Name\protect\footnotemark}
\footnotetext{A footnote with \verb+verbatim+.}
```

and likewise for equations or display math.

At present there is a bug such that paragraph closing tags are not present in footnotes when \VerbatimFootnotes are selected. The browser usually compensates.

⚠ pfnote numbers While emulating pfnote, l warp is not able to reset HTML footnote numbers per page number to match the printed version, as HTML has no concept of page numbers. l warp therefore uses continuous footnote numbering even for pfnote.

Verbatim footnotes are not yet supported.

If using the bigfoot package, and possibly also manyfoot, problems may occur with counter allocation because l warp uses many counters, and there is a difference in

bigfoot, manyfoot

⚠ verbatim

how counters numbered 256 and up are handled in pdfLATEX. With `bigfoot` this has been known to show up as an error related to one footnote insert being forbidden inside another. Another problem showed up as a input stack error, and which of these problems occurred depended on how many counters were allocated.

As a possible solution, try creating several new counters before defining `bigfoot` or `manyfoot` footnotes, hoping to shift the problematic counter above the 256 threshold. It may instead be necessary to use XeLATEX or LuaLATEX instead of pdfLATEX.

8.5.5 xr, xr-hyper, and xcite packages

See section 5.17.

8.6 Front and back matter

8.6.1 Custom classes with multiple authors and affiliations

Some classes allow multiple authors and affiliations. Often it is possible to emulate these using a standard class along with `authblk`:

```
%\documentclass{customclass} % for print document
\documentclass{article} % for html document

\usepackage{lwarp}
\begin{warpHTML}
\usepackage{authblk}
\let\affiliation\affil % maybe required
\end{warpHTML}
```

8.6.2 Starred chapters and sections

HTML page and TOC The following describes `\ForceHTMLPage` and `\ForceHTMLTOC`, which may be used for endnotes, glossaries, `tocbibind`, bibliographies, and the index. See the following sections where applicable. Continue here if interested in the reason for adding these commands to `lwarp`.

Some packages use `\chapter*` or `\section*` to introduce reference material such as notes or lists, often to be placed in the back matter of a book. These starred sections are placed inline instead of on their own HTML pages, and they are not given TOC entries.

`lwarp` provides a method to cause a starred section to be on its own HTML page, subject to `FileDepth`, and also a method to cause the starred section to have its own TOC entry during HTML output.

`\ForceHTMLPage` To place a starred section on its own HTML page, use `\ForceHTMLPage` just before the `\chapter*` or `\section*`. `lwarp` will create a new page for the starred sectional unit.

A starred sectional unit does not have a TOC entry unless one is placed manually. The typical method using `\phantomsection` and `\addcontentsline` works for inline text but fails when the new starred section is given its own webpage after the TOC entry is created, or when creating an EPUB where the TOC entry will point to the page before the starred section. If the starred section has its own HTML page but no correct TOC entry pointing to that page, the page will be inaccessible unless some other link is created.

Pkg `\ForceHTMLTOC` To automatically force the HTML version of the document to have a TOC entry for a starred section, use `\ForceHTMLTOC` just before the `\chapter*` or `\section*`, and place `\phantomsection` and `\addcontentsline` inside a `\warpprint` environment.

For print output, `\ForceHTMLTOC` and `\ForceHTMLPage` have no effect.

8.6.3 abstract package

Pkg `abstract` If using the `number` option with file splits, be sure to place the table of contents before the abstract. The `number` option causes a section break which may cause a file split, which would put a table of contents out of the home page if it is after the abstract.

⚠️ missing TOC

8.6.4 titling and authblk

Pkg `titling` lwarf supports the native L^AT_EX titling commands, and also supports the packages `authblk` and `titling`. If both are used, `authblk` should be loaded before `titling`.

package support

⚠️ load order

If using the `titling` package, additional titlepage fields for `\published` and `\subtitle` may be added by using `\AddSubtitlePublished` in the preamble. See section 66.8.

8.6.5 tocloft package

Opt `[tocloft]` `titles`

Pkg `tocloft`

Pkg `tocloft`

If using `tocloft` with `tocbibind`, `anonchap`, `fncychap`, or other packages which change chapter title formatting, load `tocloft` with its `titles` option, which tells `tocloft` to use standard L^AT_EX commands to create the titles, allowing other packages to work with it.

⚠️ tocloft & other packages

8.6.6 appendix package

Pkg `appendix`

⚠️ incorrect TOC link

During HTML conversion, the option `toc` without the option `page` results in a TOC link to whichever section was before the `appendices` environment. It is recommended to use both `toc` and `also page` at the same time.

8.6.7 pagenote package

Pkg `pagenote` `pagenote` works as-is, but the `page` option is disabled.

8.6.8 endnotes package

Pkg endnotes To place the endnotes in the toc, use:

table of contents

```
\usepackage{endnotes}
\appto\enoteheading{\addcontentsline{toc}{section}{\notesname}}
\renewcommand*\notesname{Endnotes} % optional
```

HTML page To additionally have the endnotes on their own HTML page, if FileDepth allows:

```
\ForceHTMLPage
\theendnotes
```

 \endnotemark
numbering If using MATHJAX, see section 8.5.4 regarding the use of \endnotemark and \endnotetext.

8.6.9 BibTeX

\etalchar Displays a superscript “+” to indicate “and others”.

 Modify *.bib When enough authors are cited for a source, BIBTeX may use the \etalchar command to display a math superscript with a + character to indicate “and others”. Without modification, this will result in an “Improper \prevdepth” error. At present, lwarp requires that \etalchar be replaced by a text superscript. To do so, add to the start of the .bib file the following:

```
@PREAMBLE{"\let\etalchar\relax \newcommand{\etalchar}[1]{\textsuperscript{#1}}"}
```

8.6.10 xcite package

See section 5.17.

8.6.11 gloss package

Pkg gloss To process the HTML glossary:

 compiling bibtex <projectname>_html.gls

8.6.12 glossaries package

Pkg glossaries
processing glossaries
 Opt GlossaryCmd
 Default: `makeglossaries`
 Opt [lwarpmk] printglossary
 Opt [lwarpmk] htmlglossary

The shell command to execute is set by the `lwarp` option `GlossaryCmd`, which defaults to `makeglossaries`. The print or HTML glossary filename is appended to this command.

⚠ makeglossaries not found In some situations it may be required to modify the default command, such as to add the `perl` command in front:

```
\usepackage[
  GlossaryCmd={perl makeglossaries},
] {lwarp}
```

xindy language To set the language to use for processing glossaries with `xindy`:

```
\usepackage[
  GlossaryCmd={makeglossaries -L english},
] {lwarp}
```

Other options for `makeglossaries` may be set as well.

placement and toc options

The glossaries may be placed in a numbered or unnumbered section, given a TOC entry, and placed inline or on their own HTML page:

Numbered section, on its own HTML page:

```
\usepackage[xindy,toc,numberedsection=nolabel]{glossaries}
...
\printglossaries
```

Unnumbered section, inline with the current HTML page:

```
\usepackage[xindy,toc]{glossaries}
...
\printglossaries
```

Unnumbered section, on its own HTML page:

```
\usepackage[xindy,toc]{glossaries}
...
\ForceHTMLPage
\printglossaries
```

⚠ glossary style The default `style=item` option for `glossaries` conflicts with `lwarp`, so the style is forced to `index` instead.

⚠ number list The page number list in the printed form would become `\namerefs` in HTML, which could become a very long string if many items are referenced. For now, the number list is simply turned off.

print/HTML versions

The print and HTML versions of the glossary differ in their internal page numbers. Separate commands for generating print and HTML glossaries are used, even though the page number is currently ignored.

8.6.13 nomencl package

Pkg nomencl To process the HTML nomenclature:

```
makeindex <project>_html.nlo -s nomencl.list -o <project>_html.nls
```

8.6.14 Indexing overview

There are many ways to process indexes for a L^AT_EX document, including native L^AT_EX capabilities, a number of packages and classes, the possible availability of shell escape and *latexmk*, and the need to process print and HTML versions. *lwarp* attempts to provide easy recompilation of indexes along with the rest of the document, but the various indexing options must be set correctly. Numerous examples are given below. Some differ in minor details, so the important parts are highlighted in red, and options are in green.

Once set up properly, the entire document may be recompiled with **lwarpmk print** and **lwarpmk html**. In some cases, it will also be necessary to compile the indexes with **lwarpmk printindex** and **lwarpmk htmlindex**. A recompile may then be forced with **lwarpmk print1** and **lwarpmk html1**.

manual processing The user may continue to process indexes manually or by shell script without the use of *lwarpmk*, but adjustments will be required to process HTML indexes as well. In general, *.idx and *.ind files will be accompanied by *_html.idx and *_html.ind files.

custom index style If using a custom indexing style file, see sections 8.6.20 and 8.6.21.

source code See section 76 for *lwarp*'s core index and glossary code, section 305 for *index*, section 487 for *splitidx*, section 304 for *imakeidx*, section 530 for *tocbibind*, and section 590.17 for *memoir*'s indexing patches.

8.6.15 Indexing with basic L^AT_EX and makeidx

lwarpmk processing The following allow the user to process indexes automatically, or using *lwarpmk*'s commands:

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

For a single index using *makeindex*:

```
\usepackage[makeindex, latexmk] {lwarp}
```

The usual .idx and .ind files will be used, along with the new *lwarp.ist* style file. When creating the HTML index, “_html” is automatically appended to each of the names.

lwarpmk will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

```
Enter ⇒ lwarpmk printindex
Enter ⇒ lwarpmk htmlindex
to compile the indexes.
```

For a single index using *xindy*:

```
\usepackage[
    xindy,
    xindyLanguage=english, <optional>
    xindyCodepage=utf8, <optional>
    latexmk <optional>
]{lwarp}
```

The usual .idx and .ind files will be used, along with the new *lwarp.xdy* style file.

lwarpmk will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

```
Enter ⇒ lwarpmk printindex
Enter ⇒ lwarpmk htmlindex
```

to compile the indexes.

8.6.16 Indexing with index

lwarp is told how to use *makeindex* using the *PrintIndexCmd* and *HTMLIndexCmd* options. The file *lwarp.ist* is specified, which generates index letter heads for print output and also allows special HTML formatting for HTML output.

For multiple indexes using *makeindex* and *index*:

(Assuming that the second index has file extensions *.sist* and *.sind*)

```
\usepackage[
    makeindex, latexmk,
    PrintIndexCmd={
        makeindex -s lwarp.ist <projectname>.idx ;
        makeindex -s lwarp.ist
        -o <projectname>.sind <projectname>.sidx
    },
    HTMLIndexCmd={
        makeindex -s lwarp.ist <projectname>_html.idx ;
        makeindex -s lwarp.ist
        -o <projectname>_html.sind <projectname>_html.sidx
    }
]{lwarp}
\usepackage{index}
...
\makeindex
\newindex{secondname}{sidx}{sind}{Second Index}
```

⚠ WINDOWS

For Windows, replace the two “;” characters with “&”.

When creating the HTML index, “_html” is automatically appended to the index filenames.

Use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

If the `latexmk` option is selected for `lwarf`, `latexmk` will compile the document but will *not* compile the indexes. **lwarpmk printindex** and **lwarpmk htmlindex** will still be required.

8.6.17 Indexing with `splitidx`

`lwarf` is told how to use *splitindex* using the `PrintIndexCmd` and `HTMLIndexCmd` options. The file `lwarf.ist` is specified, which generates index letter heads for print output and also allows special HTML formatting for HTML output.

If the `latexmk` option is selected for `lwarf`, `latexmk` will compile the document but will *not* compile the indexes. **lwarpmk printindex** and **lwarpmk htmlindex** will still be required.

- ⚠ `\thepage` When using `\AtWriteToIndex` or `\AtNextWriteToIndex`, the user must not refer to `\thepage` during HTML output, as the concept of a page number is meaningless. Instead, do

```
\addtocounter{LWR@autoindex}{1}
\newlabel{LWRindex}{\arabic{LWR@autoindex}}
```

where the `\index`-like action occurs, and then refer to `\arabic{LWR@autoindex}` instead of `\thepage` where the reference should occur.

See section 590.17 in the `lwarf-patch-memoir` package for the `\@wrspindexhyp` macro as an example.

For multiple indexes using `makeindex` and `splitidx`:

```
\usepackage[
    makeindex, latexmk,
    PrintIndexCmd={
        splitindex <projectname> -- -s lwarf.ist
    },
    HTMLIndexCmd={
        splitindex <projectname>_html -- -s lwarf.ist
    }
]{lwarf}
\usepackage{splitidx}
...
\makeindex
\newindex[Second Index]{secondname}
```

When creating the HTML index, “`_html`” is automatically appended to each of the names.

Use

```
Enter ⇒ lwarpmk printindex  
Enter ⇒ lwarpmk htmlindex
```

to compile the indexes.

For multiple indexes using *xindy* and *splitidx*:

```
\usepackage[  
    xindy, latexmk,  
    PrintIndexCmd={  
        splitindex -m xindy <projectname> -- -M lwarp.xdy  
        -L english -C utf8                                <optional>  
    },  
    HTMLIndexCmd={  
        splitindex -m xindy <projectname>_html -- -M lwarp.xdy  
        -L english -C utf8                                <optional>  
    }  
]{lwarp}  
\usepackage{splitidx}  
...  
\makeindex  
\newindex[Second Index]{secondname}
```

When creating the *HTML* index, “_html” is automatically appended to each of the names.

Use

```
Enter ⇒ lwarpmk printindex  
Enter ⇒ lwarpmk htmlindex
```

to compile the indexes.

8.6.18 Indexing with *imakeidx*

Due to the number of methods which may be used to process multiple indexes, the options for style file and *xindy* language and codepage must be specified in one of several different ways. These are described in detail later in this section, but are summarized here.

If shell escape is used, *imakeidx* will automatically compile the indexes by itself. Options specifying a custom style file and *xindy* language and codepage must be specified for each *\makeindex* command using its *options=* option, which must include *lwarp*'s special *lwarp.ist* or *lwarp.xdy* file, or a file based on them. If using a custom indexing style file, see sections 8.6.20 and 8.6.21. The *splitindex* option is also available if shell escape is used, in which case the *splitidx* package and *splitindex* program will also be used.

If shell escape is not possible, *latexmk* may be used to automatically compile the indexes. The style, language, and codepage options are specified with *lwarp*'s *makeindexStyle*, *xindyStyle*, *xindyLanguage*, and *xindyCodepage* options. These are passed to *latexmk* by *lwarpmk*'s **lwarpmk printindex** and **lwarpmk htmlindex** commands.

Where shell escape and *latexmk* are not possible, *lwarfmk* may be used to manually compile the indexes. lwarf's PrintIndexCmd and HTMLIndexCmd options are used.

For a single or multiple indexes using *makeindex* and *imakeidx*:

The index style *lwarf.ist* is automatically used for HTML output. This file turns on letter headings, so it may be desirable to specify it as an option, in which case it will also be used for print output, which will help match the print and HTML output.

```
\usepackage[makeindex,latexmk]{lwarf}
\usepackage[makeindex]{imakeidx}
...
\makeindex[options={-s lwarf.ist}]
\makeindex[name=secondname,options={-s lwarf.ist}]
```

imakeidx will automatically compile the indexes. Shell escape is not required while using *makeindex*. *latexmk* may be specified, and if so it will be used for **lwarfmk print** and **lwarfmk html**, but *imakeidx* will actually create the indexes.

For a single or multiple indexes using *makeindex* and *splitindex* with *imakeidx*:

The index style *lwarf.ist* is automatically used for HTML output. This file turns on letter headings, so it may be desirable to specify it as an option, in which case it will also be used for print output, which will help match the print and HTML output.

```
\usepackage[makeindex,latexmk]{lwarf}
\usepackage[makeindex,splitindex]{imakeidx}
...
\makeindex[options={-s lwarf.ist}]
\makeindex[name=secondname,options={-s lwarf.ist}]
```

enable shell escape

Shell escape is required while using *splitindex*. For the first compile, use

```
Enter ⇒ pdflatex --shell-escape projectname.tex
Enter ⇒ pdflatex --enable-write18 projectname.tex (MiKTeX)
```

or similar with *xelatex* or *lualatex*. lwarf will remember that shell escape was used.

imakeidx will automatically execute *splitindex*, and will also use *makeindex* to compile the indexes.

latexmk may be specified, and if so it will be used for **lwarfmk print** and **lwarfmk html**, but *imakeidx* will actually create the indexes.

For multiple indexes using *xindy* and *imakeidx*, using shell escape:

Options may be given to *imakeidx*'s *\makeindex* command. The style file *lwarf.xdy* is automatically used for HTML output, and is not necessary for print output since the output will be similar. If language or codepage must be set, they should be specified as options for *\makeindex*, since *imakeidx* will process the indexes.

```
\usepackage[xindy,latexmk] {lwarp}
\usepackage[xindy,splitindex]{imakeidx}
...
\makeindex[
  options={ -M lwarp.xdy -L english -c utf8 }
]
\makeindex[
  name=secondname,
  options={ -M lwarp.xdy -L english -c utf8 }
]
```

⚠ enable shell escape

For the first compile, use

```
Enter ⇒ pdflatex --shell-escape projectname.tex
Enter ⇒ pdflatex --enable-write18 projectname.tex (MiKTeX)
```

or similar with *xelatex* or *lualatex*. *lwarp* will remember that shell escape was used.

imakeidx will automatically execute *splitindex* if selected, and will also use *xindy* to compile the indexes.

If selected, *latexmk* will automatically recompile the entire document as necessary.

For indexes using *xindy* and *imakeidx*, without shell escape, but with *latexmk*:

lwarp's options are used, and are passed to *latexmk*.

```
\usepackage[
  xindy,
  xindyLanguage=english,                                <optional>
  xindyCodepage=utf8,                                  <optional>
  latexmk,
]{lwarp}
\usepackage[xindy]{imakeidx}
...
\makeindex
\makeindex[name=secondname]
```

latexmk will create the indexes automatically when **lwarpmk print** and **lwarpmk html** are executed.

For indexes using *xindy* and *imakeidx*, without shell escape, and *without latexmk*:

lwarpmk must be told how to create the indexes:

```
\usepackage[
    xindy,
    PrintIndexCmd={
        xindy -M lwarpmk.xdy -L english -C utf8
        <projectname>.idx ;
        xindy -M lwarpmk.xdy -L english -C utf8
        secondname.idx
    },
    HTMLIndexCmd={
        xindy -M lwarpmk.xdy -L english -C utf8
        <projectname>_html.idx ;
        xindy -M lwarpmk.xdy -L english -C utf8
        secondname_html.idx
    }
]{lwarpmk}
\usepackage[xindy]{imakeidx}
...
\makeindex
\makeindex[name=secondname]
```

⚠ WINDOWS

For Windows, replace the two “;” characters with “&”.

<projectname> is the \jobname: if compiling “name.tex”, use the filenames name.idx and name_html.idx.

Use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

8.6.19 Indexes with memoir

For a single index with memoir and makeindex:

```
\documentclass{memoir}
\usepackage[makeindex, latexmk]{lwarpmk}
...
\makeindex
```

The usual .idx and .ind files will be used, along with the *lwarpmk.ist* style file.

lwarpmk will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

For multiple indexes with memoir and makeindex, using *latexmk*:

lwarf's options are used, and are passed to *latexmk*.

```
\documentclass{memoir}
\usepackage[makeindex, latexmk]{lwarf}
...
\makeindex
\makeindex[secondname]
```

lwarpmk will use *latexmk* to create the indexes automatically when the user executes **lwarpmk print** and **lwarpmk html**.

For multiple indexes with memoir and makeindex, without *latexmk*:

lwarpmk must be told how to create the indexes:

```
\documentclass{memoir}
\usepackage[
  makeindex,
  PrintIndexCmd={
    makeindex -s lwarf.ist <projectname>.idx ;
    makeindex -s lwarf.ist secondname.idx
  },
  HTMLIndexCmd={
    makeindex -s lwarf.ist <projectname>_html.idx ;
    makeindex -s lwarf.ist secondname_html.idx
  }
]{lwarf}
...
\makeindex
\makeindex[secondname]
```

 **WINDOWS**

For Windows, replace the two ";" characters with "&".

<projectname> is the \jobname: if compiling "name.tex", use the filenames name.idx and name_html.idx.

Use

```
Enter ⇒ lwarpmk printindex
Enter ⇒ lwarpmk htmlindex
```

to compile the indexes.

For a single index with memoir and xindy:

```
\documentclass{memoir}
\usepackage[
    xindy,
    xindyLanguage=english,           <optional>
    xindyCodepage=utf8,             <optional>
    latexmk                         <optional>
]{lwarp}
...
\xindyindex
\makeindex
```

The usual .idx and .ind files will be used, along with the `lwarp.xdy` style file.

`lwarpmk` will use `latexmk` if specified, in which case `latexmk` will create the index automatically. Otherwise, use

```
Enter ⇒ lwarpmk printindex
Enter ⇒ lwarpmk htmlindex
```

to compile the indexes.

For multiple indexes with memoir and xindy, using latexmk:

`lwarp`'s options are used, and are passed to `latexmk`.

```
\documentclass{memoir}
\usepackage[
    xindy,
    xindyLanguage=english,           <optional>
    xindyCodepage=utf8,             <optional>
    latexmk                         <optional>
]{lwarp}
...
\xindyindex
\makeindex
\makeindex[secondname]
```

`lwarpmk` will use `latexmk` to create the indexes automatically.

For multiple indexes with memoir and xindy, *without latexmk*:

lwarpmk must be told how to create the indexes:

```
\documentclass{memoir}
\usepackage[
    xindy,
    PrintIndexCmd={
        xindy -M l warp.xdy -L english -C utf8
        <projectname>.idx ;
        xindy -M l warp.xdy -L english -C utf8
        secondname.idx
    },
    HTMLIndexCmd={
        xindy -M l warp.xdy -L english -C utf8
        <projectname>_html.idx ;
        xindy -M l warp.xdy -L english -C utf8
        secondname_html.idx
    }
]{l warp}
...
\xindyindex
\makeindex
\makeindex[secondname]
```

⚠ WINDOWS

For Windows, replace the four “;” characters with “&”.

<projectname> is the \jobname: if compiling “name.tex”, use the filenames name.idx and name_html.idx.

Use

```
Enter ⇒ l warpmk printindex
Enter ⇒ l warpmk htmlindex
```

to compile the indexes.

8.6.20 Using a custom *makeindex* style file

Prog makeindex When using *makeindex*, *lwarpmk* uses the file *l warp.ist* to process the index. This file is over-written by *l warp* whenever a print version of the document is processed.
File *l warp.ist*

To use a custom *makeindex* style file:

1. Copy *l warp.ist* to a new filename such as *projectname.ist*
2. Make changes to *projectname.ist*. Keep the lines which refer to \hyperindexref. These lines creates the hyperlinks for the HTML index. During print output \hyperindexref becomes a null function.
3. In the document source use the *makeindexStyle* option for *l warp*:

```
\usepackage[
    ... other options ...
    \textred{makeindexStyle=projectname.ist},
]{l warp}
```

Opt *makeindexStyle*

Likewise, refer to the custom style file if using `\PrintIndexCmd`, `\HTMLIndexCmd`, or `\LatexmkIndexCmd`.

- Recompile the print version, which causes `lwarp` to rewrite the `lwarpmk.conf` configuration file. This tells `lwarpmk` to use the custom `projectname.ist` file instead of `lwarp.ist`.

8.6.21 Using a custom *xindy* style file

Prog `xindy` When using *xindy*, `lwarpmk` uses the file `lwarp.xdy` to process the index. This file is over-written by `lwarp` whenever a print version of the document is processed.
File `lwarp.xdy`

To use a custom *xindy* style file:

- Copy `lwarp.xdy` to a new filename such as `projectname.xdy`
- Make changes to `projectname.xdy`.

Keep the lines which refer to `\hyperindexref`:

```
(define-attributes ((hyperindexref)))
(markup-locref :open "\hyperindexref{" :close "}")
...
(markup-locref :open "\textit{\hyperindexref{" :close "}}" :attr "textit")
```

These lines create the hyperlinks for the HTML index. During print output `\hyperindexref` becomes a null function.

To create custom styles, refer to the lines for `\textbf` and `\textit`.

Opt `xindyStyle` 3. In the document source use the `xindyStyle` option for `lwarp`:

```
\usepackage[
    ... other options ...
    \textred{xindyStyle=projectname.xdy},
]{lwarp}
```

Likewise, refer to the custom style file if using `\PrintIndexCmd`, `\HTMLIndexCmd`, or `\LatexmkIndexCmd`.

- Recompile the print version, which causes `lwarp` to rewrite the `lwarpmk.conf` configuration file. This tells `lwarpmk` to use the custom `projectname.xdy` file instead of `lwarp.xdy`.

8.6.22 Additional indexing limitations

⚠ xindy with hyperref *xindy* and `hyperref` may not work well together for print output with “see”, “see also”, reference ranges, or stylized index references. It may be necessary to turn off hyper-referencing for indexes:

```
\usepackage[hyperindex=false]{hyperref}
```

⚠ empty index If an HTML index is empty, it may be necessary to add the following before `lwarp` is

loaded:

```
\usepackage{morewrites}
\morewritessetup{allocate=10}
...
\usepackage{lwarf}
```

makeindex custom display styles When using *makeindex*, custom display styles are possible:

```
\begin{warpprint}
\newcommand{\notesstyle}[1]{#1nn}
\end{warpprint}

\begin{warpHTML}
\makeatletter
\newcommand{\notesstyle}[1]{\LWR@doindexentry{#1} notes }
\makeatother
\end{warpHTML}
...
A sentence.\index{key|notesstyle}
```

xindy custom display styles For custom styles with *xindy*, see *lwarf.xdy* for \textbf and \textit as examples.

8.6.23 Index positions, toc, tocbibind

placement and toc options An index may be placed inline with other HTML text, or on its own HTML page:

Pkg makeidx **Inline, with a manual toc entry:**

A commonly-used method to introduce an index in a L^AT_EX document:

```
\cleardoublepage
\phantomsection
\addcontentsline{toc}{section}{\indexname} or chapter
\printindex
```

Pkg makeidx **On its own HTML page, with a manual toc entry:**

```
\begin{warpprint}
\cleardoublepage
\phantomsection
\addcontentsline{toc}{section}{\indexname} or chapter
\end{warpprint}
\ForceHTMLPage
\ForceHTMLTOC
\printindex
```

Pkg tocbibind **Inline, with an automatic toc entry:**

The *tocbibind* package may be used to automatically place an entry in the toc.

```
\usepackage[nottoc]{tocbibind}
...
\cleardoublepage
\phantomsection % to fix print-version index link
\printindex
```

Pkg `tocbibind` **On its own HTML page, with an automatic TOC entry:**

```
\usepackage[nottoc]{tocbibind}
...
\cleardoublepage
\phantomsection % to fix print-version index link
\ForceHTMLPage
\printindex
```

`Opt [tocbibind] numindex numbered index section` Use the `tocbibind numindex` option to generate a numbered index. Without this option, the index heading has no number.

Other packages, such as `imakeidx`, may also have options for including the index in the Table of Contents.

Pkg `tocloft` If using `tocloft` with `tocbibind`, `anonchap`, `fncychap`, or other packages which change chapter title formatting, load `tocloft` with its `titles` option, which tells `tocloft` to use standard L^AT_EX commands to create the titles, allowing other packages to work with it.

⚠ **tocloft & other packages**

8.7 Math

8.7.1 Math in section names

⚠ **math in section names** If using named HTML files, in section names use paren math `\(x+y\)` instead of dollar math `$x+y$`. (Dollar math works, but appears in the filename.) Or, use a short name for the TOC entry without the math, or use `\texorpdfstring`:

```
\section{A name with math
\texorpdfstring{$1+2=3$}{text description}}
```

8.7.2 Rendering tradeoffs

Math rendering Math may be rendered as SVG graphics or using the MATHJAX JavaScript display engine.

SVG files Rendering math as images creates a new SVG file for each expression, except that an MD5 hash is used to combine identical duplicates of the same inline math expression into a single file, which must be converted to SVG only once. Display math is still handled as individual files, since it may contain labels or references which are likely to change.

SVG inline The SVG images are currently stored separately, but they could be encoded in-line directly into the HTML document. This may reduce the number of files and potentially speed loading the images, but slows the display of the rest of the document before the images are loaded.

PNG files Others L^AT_EX-to-HTML converters have used PNG files, sometimes pre-scaled for print resolution but displayed on-screen at a scaled down size. This allows high-quality print output at the expense of larger files, but SVG files are the preferred approach for scalable graphics.

MathML Conversion to MathML might be a better approach, among other things allowing a more compact representation of math than SVG drawings. Problems with MathML include limited browser support and some issues with the fine control of the appearance of the result. Also see section 10 regarding EPUB output with MATHJAX.

8.7.3 svg option

SVG math option For SVG math, math is rendered as usual by L^AT_EX into the initial PDF file using the current font¹⁴, then is captured from the PDF and converted to SVG graphics via a number of utility programs. The SVG format is a scalable-vector web format, so math may be typeset by L^AT_EX with its fine control and precision, then displayed or printed at any size, depending on (sometimes broken) browser support. An HTML alt attribute carries the L^AT_EX code which generated the math, allowing copy/paste of the L^AT_EX math expression into other documents.

SVG image font size For the lateximage environment, the size of the math and text used in the SVG image may be adjusted by setting \LateximageFontSizeName to a font size name — *without the backslash*, which defaults to:

```
\renewcommand{\LateximageFontSizeName}{\normalsize}
```

For inline SVG math, font size is instead controlled by \LateximageFontSizeScale, which defaults to:

```
\newcommand*{\LateximageFontSizeScale}{.75}
```

SVG math copy/paste For SVG math, text copy/paste from the HTML <alt> tags lists the equation number or tag for single equations, along with the L^AT_EX code for the math expression. For *AMS* environments with multiple numbers in the same environment, only the first and last is copy/pasted, as a range. No tags are listed inside a starred *AMS* environment, although the \tag macro will still appear inside the L^AT_EX math expression.

⚠️ SVG math size, baseline SVG math sizing and baselines are improved if the graphics or graphicx package is loaded. An almost-invisible marker is placed at either end of the image to assist in cropping and computing the baseline. A warning is issued at the end of the compile if graphics or graphicx are not used.

⚠️ SVG math in TeX boxes SVG math does not work inside TeX boxes, since a \newpage is required before and after each image.

8.7.4 MATHJAX option

MATHJAX math option The popular MATHJAX alternative (mathjax.org) may be used to display math.

Prog MathJax

When MATHJAX is enabled, math is rendered twice:

- As regular L^AT_EX PDF output placed inside an HTML comment, allowing equation numbering and cross referencing to be almost entirely under the control of L^AT_EX, and

¹⁴See section 575 regarding fonts and fractions.

2. As detokenized printed LATEX commands placed directly into the HTML output for interpretation by the MATHJAX display scripts. An additional script is used to pre-set the equation number format and value according to the current LATEX values, and the MATHJAX cross-referencing system is ignored in favor of the LATEX internal system, seamlessly integrating with the rest of the LATEX code.

8.7.5 Customizing MATHJAX

global customizations MATHJAX does not have preexisting support every possible math function. Additional MATHJAX function definitions may be defined in the preamble. These will be declared at the start of each HTML page, and thus will have a global effect across all HTML pages.

Examples:

```
\begin{warpMathJax}
\CustomizeMathJax{
    \newcommand{\expval}[1]{\langle#1\rangle}
    \newcommand{\abs}[1]{\lvert#1\rvert}
}
\CustomizeMathJax{\newcommand{\arcsinh}{\text{arcsinh}}}
\CustomizeMathJax{\newcommand{\arccosh}{\text{arccosh}}}
\CustomizeMathJax{\newcommand{\NN}{\mathbb{N}}}
\end{warpMathJax}
```

⚠ slow compilation To avoid a slowdown in compile speed, use the warpMathJax environment to prevent its contents from being processed in print or SVG math output. Also, place each new definition inside its own \CustomizeMathJax. A warning to this effect is issued if an overly-long definition is attempted.

lwarp already provides MATHJAX customizations for some packages.

siunitx When using siunitx, a similar process may be used to add custom units:

```
\begin{warpMathJax}
\CustomizeMathJax{\newcommand{\myunit}{\mathrm{WXYZ}}}
\CustomizeMathJax{\newcommand{\umyunit}{\mathrm{\mu\myunit}}}
\end{warpMathJax}
```

advanced control For more advanced control over dynamically creating custom definitions, see as an example the lwarp definition for \DeclarePairedDelimiterX, in section 346, mathtools.

local customizations For customizations local to the current HTML page only, macros may be defined as follows:

```
\begin{warpMathJax}
\(\newcommand{\macroname}{...}\)
\(\newcommand{\anothername}{...}\)
\end{warpMathJax}
```

To maintain compile speed, use the warpMathJax environment, and use a separate math environment for each definition.

⚠ starred macros Starred macros are generally not supported by MathJax or the lwarp emulations.

8.7.6 MATHJAX limitations

MATHJAX limitations

Prog MathJax

⚠ \multicolumn, multirow

- MATHJAX does not support `\multicolumn` or `multirow`. These may be used in text tabulars or SVG math, but in MATHJAX math arrays they are emulated. `\multicolumn` only fills a single cell, resulting in a short row. `\multirow` simply prints its text on the first line.

⚠ subequations

- MATHJAX does not support subequations. This may be improved by parsing the L^AT_EX math expression to manually insert tags, but this has not yet been done.

⚠ footnotes

- Footnotes are emulated when used inside a MATHJAX expression. For an equation with a single footnote, the correct footnote number is used. For non-equations, `\footnotename` is used instead, since the actual number cannot be tracked. See section 8.5.4 regarding the use of footnotes with MATHJAX.

⚠ references

- Inside a MATHJAX expression, references to equations work within the same HTML web page, but do not work when referring to an equation in a different HTML web page. Outside of a MATHJAX expression, in the text body, references work as expected.

lateximage

- Math appearing inside a `lateximage`, and therefore also inside a `Tikz` or `picture` environment, is rendered as SVG math even if MATHJAX is used in the rest of the document.

siunitx

- For `siunitx`, see [siunitx package](#), section 8.7.12.

physics

- For `physics`, see [physics package](#), section 8.7.14.

tabbing

- A tabbing environment is emulated using an HTML `<pre>`. While MATHJAX is enabled inside `tabbing`, the browser may not correctly render the horizontal alignment of the math and text following after on the same line.

⚠ other macros and packages

- Other math-related macros and packages are not directly supported by MATHJAX, including `\ensuremath` and `bigdelim`, and occasionally-used macros such as `\relax`. While using MATHJAX, lwarp provides emulation for footnotes, `bm`, `mathtools`, `nicefrac`, `siunitx`, and `units`.

⚠ starred macros

- Starred macros are generally not supported by MathJax or the `lwarp` emulations.

8.7.7 Catcode changes

preamble macros with math

The math shift character \$ is not set for HTML output until after the preamble. Macros defined in the preamble which contain \$ must be enclosed between `\StartDefiningMath` and `\StopDefiningMath` to temporarily change to the HTML meaning of \$:

```
\StartDefiningMath
\newcommand{...}
\StopDefiningMath
```

As an alternative, use `\(` and `\)` instead of \$, in which case `\StartDefiningMath` and `\StopDefiningMath` are not necessary.

If a package defines macros using \$, it may be necessary to use `\StartDefiningMath` and `\StopDefiningMath` before and after loading the package.

8.7.8 Complicated inline math objects

<code>\inlinemathnormal</code>	An inline math expression is usually converted to a reusable hashed SVG math image, or a MathJax expression. The hash or expression depends on the contents of the math expression. In most cases this math expression is static, such as $x+1$, so the image can be reused for multiple instances of the same expression. In some cases, the math expression includes a counter or other object which may change between uses. Another problem is complicated contents which do not expand well in an alt tag. The macro <code>\inlinemathother</code> may be used before a dynamic math expression, and <code>\inlinemathnormal</code> after. Doing so tells lwarf to use an unhashed SVG math image, even if MathJax is in use. See section 44.
<code>\inlinemathother</code>	

`changing contents`

`complicated alt tag`

8.7.9 Complicated display math objects

<code>\displaymathnormal</code>	By default, or when selecting <code>\displaymathnormal</code> , MATHJAX math display environments print their contents as text into HTML, and SVG display math environments render their contents as SVG images and use their contents as the alt tag of HTML output. To do so, the contents are loaded into a macro for reuse. In some cases, such as complicated Tikz pictures, compilation will fail.
<code>\displaymathother</code>	When selecting <code>\displaymathother</code> , it is assumed that the contents are more complicated than “pure” math. An example is an elaborate Tikz picture, which will not render in MATHJAX and will not make sense as an HTML alt tag. In this mode, MATHJAX is turned off, math display environments become SVG images, even if MATHJAX is selected, and the HTML alt tags become simple messages. The contents are internally processed as an environment instead of a macro argument, so complicated objects such as Tikz pictures are more likely to compile successfully.

8.7.10 ntheorem package

Pkg `ntheorem`

⚠ `Font control`

This conversion is not total. Font control is via css, and the custom L^AT_EX font settings are ignored.

⚠

`Equation numbering`

`ntheorem` has a bug with equation numbering in *AMS* environments when the option `thref` is used. lwarf does not share this bug, so equations with `\split`, etc, are numbered correctly with lwarf’s HTML output, but not with the print output. It is recommended to use `cleveref` instead of `ntheorem`’s `thref` option.

8.7.11 mathtools package

Pkg `mathtools`

`showonlyrefs` is disabled, as it conflicts with `cleveref`, which is used by lwarf. Equation numbers may not match the print version.

⚠

`equation numbering`

 italic correction *mathic* is not emulated for HTML.

 MATHJAX If using MATHJAX:

- Starred macros are not available. Starred environments do work.
 - `mathtools` disallows spaces does not work for MATHJAX. Protect brackets which are not optional arguments, such as:

```
\begin{gathered}{}\\ [p]=1 . . .\\ \end{gathered}
```
 - `showonlyrefs` does not work in MATHJAX, and will result in a difference in equation numbering compared to the print version.
 - Due to MATHJAX limitations, the following do not render well: `\overbracket`, `\underbracket`, `\overbrace`, `\underbrace`, `rcases`, `drcases`, `\Aboxed`, and `\ArrowBetweenLines`.
 - For the new cases-like environments, `\text` must be used to set the normal roman font if desired.
 - `alignat` in MATHJAX requires math mode, but in L^AT_EXit doesn't. It may be required to use `warpHTML` and `warpprint` to isolate a version for each mode.
 - `\DeclareParedDelimiter` and related must be in the preamble before `\begin{document}`. The starred versions of each macro are not created.

8.7.12 siunitx package

Pkg **siunitx** Due to *pdftotext* limitations, fraction output is replaced by symbol output for per-mode and quotient-mode.

 math mode required Some units will require that the expression be placed inside math mode.

 **tabular** Tabular S columns are rendered as simple c columns, and tabular s columns are not supported. These may be replaced by c columns with each cell contained in \num or \si.

For math mode with `svg` display, the original `siunitx` code is used while generating the `svg` image. For text mode, `lwarp` uses an emulation which provides a very effective

 **MathJax** HTML interpretation of `siunitx`. For math expressions while using MATHJAX, a limited emulation is used. Most functions work reasonably well, but many options cannot be emulated. `siunitx` macros with more than one optional value cannot absorb the second optional value, and complicated parsing such as for `\ang` is not supported. The result usually looks fine, and otherwise is enough to get the meaning across.

`lwarp`'s MATHJAX emulation for `siunitx` is meant to be a stop-gap measure until an extension is included in MATHJAX. As of this writing, the third-party `siunitx` extension for MATHJAX is not currently hosted at any public CDN, thus `siunitx` is not usable with this extension unless a local copy of this extension is created first. See `\MathJaxFilename` to select a custom MathJax script, but `lwarp`'s emulation would have to be disabled as well.

Document modifications required for MATHJAX:

custom units

- Custom units may be added with `\CustomizeMathJax`. See the `l warp-siunits` code for examples.

 **unit spacing**

- Units work better using `~` between units instead of using periods.

 **\square, \cubic**

- To square or cube compound units, enclose the following compound units in braces:

`\cubic{\centi\meter}`

Single units do not require braces.

Also see [MATHJAX option](#), section 8.7.4.

8.7.13 units and nicefrac packages

Pkg `units`
Pkg `nicefrac`

`units` and `nicefrac` work with `l warp`, but MATHJAX does not have an extension for `units` or `nicefrac`. These packages do work with `l warp`'s option `svgmath`.

8.7.14 physics package

Pkg `physics` `physics` works as-is for HTML with SVG math.

For MATHJAX, emulation is provided via MATHJAX macros. These are not the same as the third-party MATHJAX extension.

- The `notrig` option is honored.
-  • Starred macros are not yet detected.
-  • Most macros don't work with `\big`, etc.
-  • Macros do not auto-detect variable numbers of mandatory arguments. Provide empty {} arguments for those which are not used.
-  • Many of the macros do not work with auto-detected delimiters. Use the delimiter-specific versions instead. Some macros do not even consider the following arguments, so they may work as expected.
-  • For `\Re` and `\Im`, the arguments must be in braces.
- For `\functionalderivative`, for the example in the manual with $(E - TS)$, enclose the parens in braces.
-  • `\expectationvalue` requires and uses two mandatory arguments, unlike the third-party MATHJAX `physics` extension.
- Each of `\matrixquantity`, `\smallmatrixquantity`, and `\matrixdeterminant` work, while `\identitymatrix` and the following simply print a place-holder, and must be replaced by hand.

8.7.15 newtxmath package

Pkg newtxmath The proper load order is:

 loading sequence

```
...
\usepackage{lwarf}
...
\usepackage{amsthm}
\usepackage{newtxmath}
...
```

8.8 Graphics

Pkg graphics Avoid using the `\includegraphics scale` option. Change:

Pkg graphicx  scale

to:

```
\includegraphics[width=<yy>\linewidth]{...}
```

\includegraphics file formats For `\includegraphics` with .pdf or .eps files, the user must provide a .pdf or .eps image file for use in print mode, and also a .svg, .png, or .jpg version of the same image for use in HTML.

```
\includegraphics{filename} % print:.pdf/.eps HTML:.svg, etc.
```

For print output, lwarf will automatically choose the .pdf or .eps format if available, or some other format otherwise. For HTML, one of the other formats is used instead.

If a .pdf or .eps image is referred to with its file extension, the extension will be changed to .svg for HTML:

```
\includegraphics{filename.pdf} % uses .svg in html
\includegraphics{filename.eps} % uses .svg in html
```

Prog pdftocairo To convert a PDF image to SVG, use the utility `pdftocairo`:

PDF to SVG

Enter ⇒ `pdftocairo -svg filename.pdf`

Prog lwarpmk pdftosvg For a large number of images, use `lwarpmk`:

Enter ⇒ `lwarpmk pdftosvg *.pdf` (or a list of filenames)

Prog lwarpmk epstopdf For EPS images converted to PDF using the package `epstopdf`, use

epstopdf package

Enter ⇒ `lwarpmk pdftosvg *.PDF`

to convert to SVG images.

DVI latex When using DVI `latex`, it is necessary to convert EPS to PDF and then to SVG:

Enter ⇒ `lwarpmk epstopdf *.eps` (or a list of filenames)

Enter ⇒ **l warpmk pdftosvg *.pdf (or a list of filenames)**

PNG and JPG For PNG or JPG while using *pdflatex*, *lualatex*, or *xelatex*, the same file may be used in both print or HTML versions, and may be used with a file extension, but will also be used without the file extension if it is the only file of its base name.

GIF GIF files may be used for HTML, but another format must also be provided for print output.

file extension priorities If a file extension is not used, for HTML the file extension priorities are: SVG, GIF, PNG, then JPG.

⚠ graphics vs. graphicx If using the older *graphics* syntax, use both optional arguments for `\includegraphics`. A single optional parameter is interpreted as the newer *graphicx* syntax. Note that viewports are not supported by *l warp*—the entire image will be shown.



viewport



viewport units

For `\includegraphics`, avoid px and % units for width and height, or enclose them inside *warpHTML* environments. For font-proportional image sizes, use ex or em. For fixed-sized images, use cm, mm, in, pt, or pc. Use the keys `width=.5\linewidth`, or similar for `\textwidth` or `\textheight` to give fixed-sized images proportional to a 6 by 9 inch text area. Do not use the `scale` option, since it is not well supported by HTML browsers.

options `\includegraphics` accepts `width` and `height`, `origin`, `rotate` and `scale`, plus new `class` and `alt` keys.

HTML class With HTML output, `\includegraphics` accepts an optional `class=xyz` keyval combination, and if this is given then the HTML output will include that class for the image. The class is ignored for print output.

HTML alt tags Likewise, the `\includegraphics alt` key adds an HTML alt tag to an image, and is ignored for print output. If not assigned, each image is given an alt tag according to `\ImageAltText`.

\rotatebox `\rotatebox` accepts the optional `origin` key.

⚠ browser support `\rotatebox`, `\scalebox`, and `\reflectbox` depend on modern browser support. The css3 standard declares that when an object is transformed the whitespace which they occupied is preserved, unlike LATEX, so expect some ugly results for scaling and rotating.

8.8.1 tikz package

Pkg tikz If using display math with `tikzpicture` or `\tikz`, along with matrices with the & character, the document must be modified as follows:

⚠ displaymath and matrices

```
\usepackage{tikz}
\tikzset{every picture/.style={ampersand replacement=\&}}
```

and each instance of & in the tikz expression must be replaced with \&.

8.8.2 grffile package

Pkg grffile

⚠ matching PDF and SVG grffile is supported as-is. File types known to the browser are displayed, and unknown file types are given a link. Each PDF image for print mode should be accompanied by an SVG, PNG, or JPG version for HTML.

8.8.3 color package

Pkg color

color is superceded by xcolor, and lwarp requires several of the features of xcolor. When color is requested, xcolor is loaded as well.

8.8.4 xcolor package

Pkg xcolor

\colorboxBlock and \fcolorboxBlock are provided for increased HTML compatibility, and they are identical to \colorbox and \fcolorbox in print mode. In HTML mode they place their contents into a <div> instead of a . These <div>s are set to display: inline-block so adjacent \colorboxBlocks appear side-by-side in HTML, although text is placed before or after each.

Print-mode definitions for \colorboxBlock and \fcolorboxBlock are created by lwarp's core if xcolor is loaded.

background: none

\fcolorbox and \fcolorboxBlock allow a background color of none, in which case only the frame is drawn, which can be useful for HTML.

color support

Color definitions, models, and mixing are fully supported without any changes required.

colored tables

\rowcolors is supported, except that the optional argument is ignored so far.

colored text and boxes

\textcolor, \colorbox, and \fcolorbox are supported.

\color and \pagecolor

\color and \pagecolor are ignored. Use css or \textcolor where possible.

8.8.5 epstopdf package

Pkg epstopdf

Images with an .eps extension will be converted to .pdf. The HTML output uses the .svg version, so use

Enter ⇒ **lwarpmk pdftosvg <listofPDFfiles>**

to generate .svg versions.

8.8.6 pstricks package

Pkg pstricks

All pstricks content should be contained inside a pspicture environment.

⚠ use pspicture

8.8.7 pdftricks package

Pkg pdftricks

⚠ convert image files

The pdftricks image files <jobname>-fig*.pdf must be converted to .svg, or else a missing file error will occur. The image files must also be converted again whenever they change. To convert the images:

Enter ⇒ **l warpmk pdftosvg <jobname>-fig*.pdf**

8.8.8 psfrag package

Pkg psfrag

⚠ use psfrags

The psfrags environment is modified to use `\teximage` to encapsulate the image. Always use a psfrags environment to contain any local \psfrag macros and the associated \includegraphics or \epsfig calls. Outside of a psfrags environment, psfrags adjustments will not be seen by l warp.

⚠ Tip: Use a mono-spaced font for the tags in the EPS file.

8.8.9 pstool package

Pkg pstool \graphicspath is ignored, and the file directory must be stated.

⚠ path and filename The filename must not have a file extension.

Use

Enter ⇒ **l warpmk html**

followed by

Enter ⇒ **l warpmk limages**

8.8.10 asymptote package

Pkg asymptote To compile:

```
pdflatex project.tex
asy project-*.asy
pdflatex project.tex

lwarpmk print
asy project-*.asy
lwarpmk print1
lwarpmk print1

lwarpmk html
asy project_html-*.asy
lwarpmk html1
lwarpmk html1
lwarpmk limages
```

8.8.11 overpic package

Pkg overpic The macros `\overpicfontsize` and `\overpicfontskip` are used during HTML generation. These are sent to `\fontsize` to adjust the font size for scaling differences between the print and HTML versions of the document. Renew these macros before using the `overpic` and `Overpic` environments.



8.8.12 Multimedia packages

Pkg multimedia The packages `multimedia`, `movie15`, and `media9` are supported.

Pkg movie15

HTML5 `<audio>` and `<video>` objects are created for `.mp3` and `.mp4` files.

Pkg media9

HTML5 `<embed>` objects are created for `http` and `ftp` links.

`\href` links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by HTML5.)

For `media9`, a multimedia object is inserted for each `addresource=`, as well as each `flashvars source=` and `src=`. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside `\warpprintonly` or the `warpprint` environment.

Each HTML multimedia object includes the poster text, except for `<embed>` objects. For `movie15`, the `text` option is supported to specify the poster text.

The `width`, `height`, and `totalheight` options are supported. The HTML object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

`media9 \addmediapath` is supported. It is assumed that the same path structure will exist for the HTML document.

HTML5 media controls are always specified for each `<audio>` and `<video>` object.

`media9` slideshows are not supported.

`\hyperlink{movie}`, `\movieref`, and `\mediabutton` are not supported.

3D objects are not supported.

If using a YouTube™ video, use an “embedded” URL with `.../embed/...` instead of `.../v/...`

8.9 Tabbing

The tabbing environment works, except that `svg` math and `latexitimages` do not yet work inside the environment.

 **math in tabbing** If math is used inside tabbing, place tabbing inside a `latexitimage` environment, which will render the entire environment as a single `svg` image.

8.10 Tabular

8.10.1 tabular environment

Tabular mostly works as expected, but pay special attention to the following, especially if working with environments, macros inside tabulars, multirows, `siunitx` S columns, or the packages `multirow`, `longtable`, `supertabular`, or `xtab`.

Defining macros and environments:

 **Misplaced alignment
tab character &**

- When defining environments or macros which include `tabular` and instances of the `&` character, it may be necessary to make `&` active before the environment or macro is defined, then restore `&` to its default catcode after, using the following commands. These are ignored in print mode.

`\StartDefiningTabulars`

`<define macros or environments using tabular and & here>`

`\StopDefiningTabulars`

 **floatrow**

This includes before and after defining any macro which used `\ttabbox` from `floatrow`.

 **tabular inside another
environment**

- When creating a new environment which contains a `tabular` environment, `lwarp`'s emulation of the `tabular` does not automatically resume when the containing environment ends, resulting in corrupted HTML rows. To fix this, use `\ResumeTabular` as follows. This is ignored in print mode.

```
\StartDefiningTabulars % because & is used in a
definition
\newenvironment{outerenvironment}
{
\begin{tabular}{cc}
left & right \\
\end{tabular}
}
\TabularMacro\ResumeTabular
left & right \\
\end{tabular}
}
\StopDefiningTabulars
```

Cell contents:**⚠ macro in a table**

- Using a custom macro inside a tabular data cell may result in an extra HTML data cell tag, corrupting the HTML table. To avoid this, use \TabularMacro just before the macro. This is ignored in print mode.
`\TabularMacro\somemacro & more row contents \\`

Column specifiers:**@ and !**

- Only one each of @ and ! is used at each column, and they are used in that order.

\multirow

- In \multirow cells, the print version may have extra instances of <, >, @, and ! cells on the second and later rows in the \multirow which do not appear in the HTML version.

⚠ \newcolumntype

- \newcolumntype is ignored; unknown column types are set to l.

Rules:**vertical rules**

- Doubled \hlines, \midrules, and vertical rules are supported.
- Vertical rules next to either side of an @ or ! column are displayed on both sides of the column.

width and trim

- Width options are honored. Trim options are converted to rounded top corners. Trim corners are not rounded with @ or ! columns, and full-width rules ignore trim. When given an optional width, each cell is styled to create the custom border. Without an optional width, the entire row is given a class to assign the standard border.

combined rules

- If you wish to use \cmidrule followed by \bottomrule, it may be necessary to use:

```
\cmidrule{2-3} \\[-2ex]
```

```
\bottomrule
```

The optional -2ex is ignored in HTML, but improves the visual formatting in the print output.

- For \toprule and \bottomrule, when combined with a \warpprint or \warphHTML environment, if a “Misplaced \noalign” error occurs, change

```
This & That \endhead
```

to

```
\warpprintonly{This & That \endhead}
```

⚠ \warpprintonly**⚠ Misplaced \noalign**

and likewise with the other `\end` headings. Keep the `\endfirsthead` row unchanged, as it is still relevant to HTML output.

Other:

- `tabularx` ignores the width, but X columns do produce paragraph columns or multicolumns.

longtable headings

⚠ S columns

- For `longtable`, place headings and footings which do not apply to HTML inside `\warpprintonly{}`.

- For S columns (from the `siunitx` package), while producing print output, anything non-numeric must be placed inside {} braces, including commands such as `\multirow`. While producing HTML output, though, anything placed inside braces is not seen by `lwarp`'s tabular handling algorithm. To resolve this problem, make a copy of the row, with one version for print output, containing the extra braces, and another version for HTML output, without the extra braces, such as:

```
\warpprintonly{1 & 2 & {\multirow{2}{2cm}{Text}} & 3 \\}
\warpHTMLonly{1 & 2 & \multirow{2}{2cm}{Text} & 3 \\}
```

- In L^AT_EX, a `tabular` may be placed inside a `minipage`, but in HTML a `<table>` may not be inside a ``. If this situation is detected, a warning is printed instructing the user to isolate the `` using `\warpprintonly` or the `warpprint` environment.

8.10.2 multirow package

vposn

- Note that recent versions of `multirow` include a new optional `vposn` argument.

multirow cells

- For `multirow`, insert `\mrowcell` into any empty multi-row cells. This will be a null function for the print output, and is a placeholder for parsing the table for HTML output. An error is generated if this is missed.

```
... & \multirow{2}{.5in}{text} & ...
... & \mrowcell & ...
```

colored cells

- The `multirow` documentation regarding colored cells recommends using a negative number of rows. This will not work with `lwarp`, so `\warpprintonly` and `\warpHTMLonly` must be used to make versions for print and HTML.

- See section 369.2 for `\multicolumnrow`.

`lwarp` does not support directly combining `\multicolumn` and `\multirow`. Use `\multicolumnrow` instead. To create a 2 column, 3 row cell:

```
\multicolumnrow{2}{c}[c]{3}[0][1in][0pt]{Text}
```

The two arguments for `\multicolumn` come first, followed by the five arguments for `\multirow`, many of which are optional, followed by the contents.

As per `\multirow`, skipped cells to the right of the `\multicolumnrow` statement are not included in the source code on the same line. On the following lines, `\mcolrowcell` must be used for each cell of each column and each row to be skipped. An error is generated if this is missed.

with \multicolumn

⚠ \multicolumn & \multirow

⚠ skipped cells

⚠ empty cells

```
    . . . & \multicolumn{2}{c}{\multirow{3}{*}{\begin{array}{|c|c|} \hline 0pt \\ \hline \end{array}}}
```

```
    . . . & \mcolrowcell & \mcolrowcell & . . .
    . . . & \mcolrowcell & \mcolrowcell & . . .
```

⚠ MathJax

- MATHJAX does not support `\multirow`, so it is emulated to only print its text on the first row. `\multirow` works as expected in text tabulars or SVG math.

8.10.3 longtable package

Pkg `longtable` Use one of either `\endhead` or `\endfirsthead` for both print and HTML, and use a `\warpprintonly` macro to disable the other head phrase, and also the `\endfoot` and `\endfirstfoot` phrases. (See section 8.10.4 if using `threeparttablex`.)

```
\begin{longtable}{ [column specifiers] }
[ . . . ] \endfirsthead % or \endhead, for print and HTML
\warpprintonly{ % not used in HTML
[ . . . ] \endhead % or \endfirsthead
[ . . . ] \endfoot
[ <lastfoot macros> ] \endlastfoot
}
. . . table contents . .
\warpHTMLonly{
[ <lastfoot macros> ] % HTML last footer, without \endfoot
% or \endlastfoot.
}
\end{longtable}
```

⚠ Misplaced `\noalign`

Use the `\warpprintonly` macro instead of the `warpprint` environment. Doing so helps avoid “Misplaced `\noalign`.” when using `\begin{warpprint}`.

⚠ `\kill`

`\kill` is ignored, place a `\kill` line inside

```
\begin{warpprint} . . . \end{warpprint}
```

or place it inside `\warpprintonly`.

⚠ `lateximage`

`longtable` is not supported inside a `lateximage`.

8.10.4 threeparttablex package

Pkg `threeparttablex` `threeparttablex` is used with `longtable` and `booktabs` as follows:

```
\begin{longtable}{ [column specifiers] }
[ . . . ] \endfirsthead % or \endhead, for print and HTML
\warpprintonly{          % not used in HTML
[ . . . ] \endhead     % or \endfirsthead
[ . . . ] \endfoot
\bottomrule \insertTableNotes \endlastfoot
}
... table contents ...
\warpHTMLonly{           % HTML last footer
\bottomrule
\UseMinipageWidths      % optional
\insertTableNotes
\endlastfoot
}
\end{longtable}
```

- table width** The table notes are created using a `\multicolumn`. By default the width is not specified to the browser, so long table notes can cause the table to be spread out horizontally. For HTML output, `lwarf` guesses the width of the table depending on the number of columns, then restricts its guess to a min/max range. To use this guess for the width of the table notes, use `\UseMinipageWidths` before `\insertTableNotes`. The width is then specified, and in many cases the result is an improvement in overall table layout.

8.10.5 supertabular and xtab packages

Pkg `supertabular` For `\tablefirsthead`, etc., enclose them as follows:

Pkg `xtab`

```
\StartDefiningTabulars
\tablefirsthead
...
\StopDefiningTabulars
```

See section 8.10.1.

⚠ `lateximage` `supertabular` and `xtab` are not supported inside a `lateximage`.

8.10.6 colortbl package

Pkg `colortbl` Only use `\rowcolor` and `\cellcolor` at the start of a row, in that order.

⚠ `row/color` `colortbl` ignores the overhang arguments.

8.10.7 ctable package

⚠ `Misplaced alignment tab character &` Use `\StartDefiningTabulars` before one or more `\ctables`, and `\StopDefiningTabulars` after. These change the meaning of the ampersand `&` character.

8.10.8 bigdelim package

Pkg bigdelim \ldelim and \rdelim use \multirow, so \mrowcell must be used in the proper number of empty cells in the same column below \ldelim or \rdelim, but not in cells which are above or below the delimiter:

```
\begin{tabular}{lll}
<empty> & a & b \\
\ldelim{\{}{3}{.25in}[left ] & c & d \\
\mrowcell & e & f \\
\mrowcell & g & h \\
<empty> & i & j \\
\end{tabular}
```

<->	a	b
left {	c	d
	e	f
	g	h
<->	i	j

For MATHJAX, limited emulation is provided which merely prints the delimiter and optional text in the first row.

8.11 Floats

8.11.1 Float contents alignment

⚠ figure & table alignment \centering, etc. are honored in a figure or table if they are the first command inside the float:

```
\begin{table*}
\centering
\caption{A Table}
...
```

8.11.2 float, trivfloat, and/or algorithmicx together

Pkg float If using \newfloat, trivfloat, and/or algorithmicx together, see section 541.1.

Pkg trivfloat

Pkg algorithmicx

⚠ package conflicts

Pkg caption

Package options may cause problems with lwrap, especially if they include curly braces.

Pkg subcaption

If selecting options with braces in \usepackage does not work:

```
\usepackage[font={it,small}]{caption}% does not work
```

... try instead selecting the package options before loading lwrap:

```
\PassOptionsToPackage{font={it,small}}{caption}
...
\usepackage{lwrap}
...
\usepackage{caption}
```

... or try setting package options after the package has been loaded:

```
\usepackage{caption}
\captionsetup{font={it,small}}
```

 **numbering** To ensure proper float numbering, set caption positions such as:

```
\captionsetup[figure]{position=bottom}
\captionsetup[subfigure]{position=bottom}
\captionsetup[table]{position=top}
\captionsetup[subtable]{position=top}
```

Similarly for `longtable`. These positions depend on where the user places the `\caption` command inside each float.

8.11.4 subfig package

Pkg subfig

 **lof/lotdepth** At present, the package options for `lofdepth` and `lotdepth` are not working. These counters must be set separately after the package has been loaded.

In the document source, use `\hfill` and `\hspace*` subfig>inline between subfigures to spread them apart horizontally. The use of other forms of whitespace may cause paragraph tags to be generated, resulting in subfigures appearing on the following lines instead of all on a single line.

8.11.5 floatrow package

Pkg floatrow

 **Misplaced alignment**
tab character &
 **subfig package**

Use `\StartDefiningTabulars` and `\StopDefiningTabulars` before and after defining macros using `\ttabbox` with a tabular inside. See section 8.10.1.

When combined with the `subfig` package, while inside a `subfloatrow` `\ffigbox` and `\ttabbox` must have the caption in the first of the two of the mandatory arguments.

 **\FBwidth, \FBheight**

The emulation of `floatrow` does not support `\FBwidth` or `\FBheight`. These values are pre-set to `.3\linewidth` and `2in`. Possible solutions include:

- Use fixed lengths. `lwrap` will scale the HTML lengths appropriately.
- Use `warpprint` and `warpHTML` environments to select appropriate values for each case.

- Inside a `warpHTML` environment, manually change `\FBwidth` or `\FBheight` before the `\ffigbox` or `\ttabbox`. Use `\FBwidth` or `\FBheight` normally afterwards; it will be used as expected in print output, and will use your custom-selected value in HTML output. This custom value will be used repeatedly, until it is manually changed to a new value.

8.11.6 keyfloat package

Pkg `keyfloat` If placing a `\keyfig[H]` inside a `keywrap`, use an absolute width for `\keyfig`, instead of `lw`-proportional widths. (The `[H]` option forces the use of a `minipage`, which internally adjusts for a virtual 6-inch wide `minipage`, which then corrupts the `lw` option.)

8.12 KOMA-SCRIPT classes

Cls `komascript` Many features are ignored during the HTML conversion. The goal is source-level compatibility.

`\titlehead`, `\subject`, `\captionformat`, `\figureformat`, and `\tableformat` are not yet emulated.

⚠ Not fully tested! [Please send bug reports!](#)

Some features have not yet been tested. Please contact the author with any bug reports.

8.13 MEMOIR class

Cls `memoir` While emulating `memoir`, `lwarf` pre-loads a number of packages (section 590.1). This can cause an options clash when the user's document later loads the same packages with options. To fix this problem, specify the options before loading `lwarf`:

```
\documentclass{memoir}
...
\PassOptionsToPackage{options_list}{package_name}
...
\usepackage{lwarf}
...
\usepackage{package_name}
```

⚠ version numbers `memoir` emulates a number of packages, and declares a version date for each which often does not match the date of the corresponding freestanding package. This can cause warnings about incorrect version numbers. Since `lwarf` is intended to support the freestanding packages, which are often newer than the date declared by `memoir`, it is hoped that `memoir` will update and change its emulated version numbers to match.

`\verbfootnote` is not supported.

`\newfootnoteseries`, etc. are not supported.

`lwarf` loads `pagenote` to perform `memoir`'s `pagenote` functions, but there are minor differences in `\pagenotesubhead` and related macros.

Poem numbering is not supported.

The `verbatim` environment does not yet support the `memoir` enhancements. It is currently recommended to load and use `fancyvrb` instead.

The `memoir` glossary system is not yet supported by `lwarpmk`. The `glossaries` package may be used instead, but does require the glossary entries be changed from the `memoir` syntax to the `glossaries` syntax.

8.14 International languages

⚠ section and file names

If using `pdflatex` with the setting `\booltrue{FileSectionNames}`, non-ASCII text in section names can result in corrupted HTML file names. `pdflatex` may be used if setting `\boolfalse{FileSectionNames}`, in which case HTML file numbers will be generated.

For correct HTML file names, use `xelatex`, `lualatex`, or dedicated document classes / engines.

(As of this writing, this warning is only relevant to the `kotex` package.)

8.15 Miscellaneous packages

8.15.1 verse and memoir

Pkg `verse` When using `verse` or `memoir`, always place a `\\"` after each line.

Cls `memoir`
 \attrib The documentation for the `verse` and `memoir` packages suggest defining an `\attrib` command, which may already exist in current documents, but it will only work for print output. `lwarf` provides `\attribution`, which works for both print and HTML output. To combine the two so that `\attrib` is used for print and `\attribution` is used for HTML:

```
\begin{warpHTML}
\let\attrib\attribution
\end{warpHTML}
```

Len `\vleftskip` These lengths are used by `verse` and `memoir` to control the left margin, and they may already be set by the user for print output. New lengths `\HTMLvleftskip` and `\HTMLleftmargini` are provided to control the margins in HTML output. These new lengths may be set by the user before any `verse` environment, and persist until they are manually changed again. One reason to change `\HTMLleftmargini` is if there is a wide `\flagverse` in use, such as the word “Chorus”, in which case the value of `\HTMLleftmargini` should be set to a wide enough length to contain “Chorus”. The default is wide enough for a stanza number.

⚠ spacing

Horizontal spacing relies on `pdftotext`'s ability to discern the layout (-layout option) of the text in the HTML-tagged PDF output. For some settings of `\HTMLleftmargini` or `\HTMLleftskip` the horizontal alignment may not work out exactly, in which case a label may be shifted by one space.

8.15.2 newclude package

Pkg newclude newclude modifies \label in a non-adaptive way, so newclude must be loaded before l warp is loaded:

```
\documentclass{article}
. . . <font setup>
\usepackage{newclude}
\usepackage[warpHTML]{l warp}
. . .
```

8.15.3 babel package

Pkg babel When French is used, the caption separator is changed to a dash. The following may be used to restore it to a colon:

```
\renewcommand*\CaptionSeparator{:~}
```

punctuation spaces Also when French is used, l warp creates fixed-width space around punctuation by patching \FBcolonspace, \FBthinspace, \FBguillspace, \FBmedkern, \FBthickkern, \FBtextellipsis, and the tilde. If the user's document also changes these parameters, the user's changes should be placed inside a warpprint environment so that the user's changes do not affect the HTML output.

⚠ customized spacing

8.15.4 polyglossia package

Pkg polyglossia l warp uses cleveref, which has some limitations when using polyglossia, possibly resulting in the error

```
! Undefined control sequence. . . . \@begindocumenthook
```

To test compatibility, add

```
\usepackage{cleveref}
```

near the end of the preamble (as the last package to be loaded), and try to compile the print version. It may be necessary to set

```
\setdefaultlanguage{english}
```

or some other language supported by cleveref, then select other languages using \setotherlanguages.

Once the print version works with cleveref and polyglossia, the HTML version should work as well using l warp.

8.15.5 todonotes and luatodonotes packages

Pkg todonotes The documentation for todonotes and luatodonotes have an example with a todo

Pkg luatodonotes

inside a caption. If this example does not work it will be necessary to move the todo outside of the caption.

8.15.6 `fixme`

Pkg `fixme` External layouts (`\fxloadlayouts`) are not supported.

⚠️ external layouts

User control is provided for setting the HTML styling of the “faces”. The defaults are as follows, and may be changed in the preamble after `fixme` is loaded:

```
\def\FXFaceInlineHTMLStyle{font-weight:bold}
\def\FXFaceEnvHTMLStyle{font-weight:bold}
\def\FXFaceSignatureHTMLStyle{font-style:italic}
\def\FXFaceTargetHTMLStyle{font-style:italic}
```

8.15.7 `chemfig` package

If using `\polymerdelim` to add delimiters to a `\chemfig`, wrap both inside a single `lateximage`:

```
\begin{lateximage}[-chemfig-~\PackageDiagramAltText]
\chemfig{...}
\polymerdelim[...]{...}
\end{lateximage}
```

8.15.8 `chemformula` package

⚠️ `chemformula` with `MATHJAX`

`chemformula` works best without MATHJAX. If MATHJAX is used, `\displaymathother` must be used before `array`, and then `\displaymathnormal` may be used after. (The `chemformula` package adapts to `array`, but does not know about MATHJAX, and MATHJAX does not know about `chemformula`.)

While using MATHJAX, `\displaymathother` may also be used for other forms of display and inline math which contain `chemformula` expressions.

8.15.9 `mhchem` package

See section 353.

8.15.10 `xparse` package

Pkg `xparse` To remove from the log any warnings about redeclaring objects, place the following before `lwarp` is loaded:

```
\usepackage[log-declarations=false]{xparse}
```

8.15.11 kotex package

Pkg kotex See section 8.14 regarding *pdflatex* and Korean section names.

⚠ Korean section names

9 Compiling using custom shell commands

lwarp and *lwarpmk* try to make it easy to process print and HTML compilation tasks in most situations. Depending on the operating system, command-line options, *TEX* engine, and *lwarp* options, the commands ***lwarpmk print*** and ***lwarpmk html*** are automatically set up to correctly recompile the project. These actions may be overridden using *lwarp* options, thus allowing the use of packages such as *perltx* and *pythontex*.

9.1 Command options

Opt **PrintLatexCmd** The *lwarp* options **PrintLatexCmd** and **HTMLLatexCmd** are used to set customized commands to be executed by ***lwarpmk print*** and ***lwarpmk html***.

PrintLatexCmd should be set to shell commands which take *project.tex* and generate *project.pdf*.

HTMLLatexCmd should be set to take *project_html.tex* and generate *project_html.pdf*. *lwarpmk* will then take *project_html.pdf* and automatically convert it and generate *project.html*.

9.2 Literal character macros

The *lwarp* package options are parsed by *TEX*, and so some characters require the use of a special macro to represent them. See table 7. *\LWRopquote* and *\LWRopseq* may be used to increase operating-system portability. *\jobname* must have *_html* appended for processing HTML. *\space* may be necessary between other macros.

 **macro not found** To use these macros, either *kvoptions-patch* must be loaded before *lwarp*:

```
\usepackage{kvoptions-patch}
\usepackage[
    PrintLatexCmd={ ... } ,
    HTMLLatexCmd={ ... }
]{lwarp}
```

Table 7: Literal character macros

Character	Macro	Comment
%	\LWRpercent	
\$	\LWRdollar	
&	\LWRamp	
%	\LWRhash	
\	\LWRbackslash	
' or "	\LWRopquote	Depends on the operating system.
& or &&	\LWRopseq	Depends on the operating system.
(space)	\space	Forces an extra space.
(jobname)	\jobname	Without file extension.

or \lwarpsetup must be used to set PrintLatexCmd and HTMLLatexCmd:

```
\usepackage[...]{lwarp}
\lwarpsetup{
  PrintLatexCmd=
  {
    latex tm \LWRopseq
    dvips -o tm-pics.ps tm.dvi \LWRopseq
    ps2pdf tm-pics.ps \LWRopseq
    pdflatex tm.tex
  },
  HTMLLatexCmd=
  {
    latex tm_html \LWRopseq
    dvips -o tm_html-pics.ps tm_html.dvi \LWRopseq
    ps2pdf tm_html-pics.ps \LWRopseq
    pdflatex tm_html.tex
  }
}
```

9.3 *latexmk*

Prog latexmk If *latexmk* is used for a project, it may be easiest to continue using it.

latexmk project.tex would create *project.pdf* as normal.

latexmk project_html.tex would create *project_html.pdf*, then

lwarpmk pdftohtml project_html.pdf would take *project_html.pdf* and convert it to *project.html*.

Pkg sagetex *latexmk* may simplify the use of packages such as `sagetex`.

9.4 perltex package

Pkg perltex The `l warp` package option settings to use `perltx` would be similar to:

```
\usepackage[
  ...
  PrintLatexCmd={perltx -latex=pdflatex project.tex} ,
  HTMLLatexCmd={perltx -latex=pdflatex project_html.tex} ,
  ...
]{l warp}
```

⚠ “impure” math Place `perltx` math expressions between `\displaymathother` and `\displaymathnormal`, or `\inlinemathother` and `\inlinemathnormal`. See section 8.7.9.

9.5 pythontex package

Pkg pythontex An example using `pythontex`:

```
\usepackage[
  ...
  PrintLatexCmd={
    pdflatex project.tex \LWRopseq
    pythontex project \LWRopseq
    pdflatex project.tex
  } ,
  HTMLLatexCmd={
    pdflatex project_html.tex \LWRopseq
    pythontex project_html \LWRopseq
    pdflatex project_html.tex
  } ,
  ...
]{l warp}
```

Another possibility is to use `latexmk`, placing the `\Latexmk ...` commands in the `PrintLatexCmd` and `HTMLLatexCmd` options. While using these options, the `l warp` option `latexmk` would not be used.

⚠ “impure” math No attempt has yet been made to make `pythontex` robust with HTML output. Some math objects must be surrounded by `\displaymathother ... \displaymathnormal`, or `\inlinemathother ... \inlinemathnormal`. Displays of code may have to be enclosed

⚠ HTML look-alike inside a `lateximage` environment to prevent `<`, `>` and similar from being interpreted by the browser as HTML entities.

9.6 Other packages

Pkg sympytex Other packages such as `sympytex` and `rterface` would be set up similar to `pythontex`,

Pkg rterface

and the same warnings would apply.

9.7 *make* program

- Prog make To use `lwarp` with the *make* program, have the `makefile` take `project.tex` and generate the print version `project.pdf`, as normal. `\usepackage{lwarp}` must be used, and it generates `lwarpmk.conf` when the print version is created.

To generate HTML, first have `project_html.tex` be compiled to generate `project_html.pdf`. This must be in PDF format. Finally, have `project_html.pdf` be converted to HTML using `lwarpmk pdftohtml project_html.pdf`, and convert SVG math with `lwarpmk limages`.

9.8 UTF-8 locale

- ⚠ **UTF-8 locale** `lwarpmk` uses the `texlua` program, which sets the “locale” to “C”, including for external operating-system calls such as when executing `lwarpmk html`. In some cases, an external program called from the user’s document may require the use of a UTF-8 “locale”. For UNIX-related operating systems, it may be required to use `lwarp`’s custom compilation options to add a locale change:

```
\usepackage{lwarp}[
  PrintLatexCmd={
    env LC_CTYPE=en_US.UTF-8
    xelatex -shell-escape project.tex
  }
  HTMLLatexCmd={
    env LC_CTYPE=en_US.UTF-8
    xelatex -shell-escape project_html.tex
  }
]
```

- Pkg `dita` The only example seen so far where this is required is the `dita` package, where the locale change allows the use of UTF-8 with Xe^LA_ET_X and `dita`. To use Lu^aL^AE_TX instead, the locale change would have to be made inside the `dita` package where its calls the `dita` program.

10 EPUB conversion

lwarf does not produce EPUB documents, but it may be told to modify its HTML output to greatly assist in the conversion. An external program may then be used to finish the conversion to EPUB.

<meta> author To assign the author's name for regular lwarf HTML files, and also for the EPUB, use \HTMLAuthor {\<name>}. This assigns the name to the <meta> author element. It may be set empty, and it defaults to \theauthor.

A special boolean is provided to simplify the process of converting lwarf HTML output to EPUB:

FormatEPUB

Bool FormatEPUB
Default: false

FormatEPUB changes HTML output for easy EPUB conversion via an external program. Removes per-file headers, footers, and nav. Adds footnotes per chapter/section.

To help convert lwarf HTML output to EPUB, add

```
\booltrue{FormatEPUB}
```

to the project's source preamble after \usepackage{lwarf}. The EPUB version of the document cannot co-exist with the regular HTML version, so

```
Enter ⇒ lwarpmk cleanall
```

```
Enter ⇒ lwarpmk html
```

```
Enter ⇒ lwarpmk limages
```

to recompile with the FormatEPUB boolean turned on. Several changes are then made to the HTML output:

- Headers, footers, and navigation are removed at file splits.
- Any accumulated footnotes are printed at the bottom of each section.

The resulting files will be ready to be loaded into an EPUB conversion program, such as the open-source program *Calibre* (<https://calibre-ebook.com/>).

 **search order** The EPUB conversion program must know what order the files are included. For lwarf projects, set the EPUB conversion software to do a breadth-first search of the files. For *Calibre*, this option is found in

Preferences → Plugins → File type plugins → HTML to Zip

 **encoding** Check the box Add linked files in breadth first order. Set the document encoding as utf-8, which is what lwarf generates for HTML, even if the original printed document uses some other encoding.

⚠ section breaks

The EPUB-conversion program must also know where the section breaks are located. For a list of lwarf's section headings, see table 9. For example, an article class document would break at \section, which is mapped to HTML heading level <h4>, whereas a book class document would break at \chapter, which is HTML heading level <h3>. For *Calibre*, this option is found in

Preferences → Conversion (Common Options) → Structure Detection → Detect chapters at (XPath expression)

Select the “magic wand” to the right of this entry box, and set the first entry

Match HTML tags with tag name:

to “h4”. (Or “h3” for document classes with \chapters.) The Detect chapters at field should then show

//h:h4 — or — //h:h3

This option is also available on the main tool bar at the Convert books button.

Once these settings have been made, the lwarf-generated HTML files may be loaded by *Calibre*, and then converted to an EPUB.

MATHJAX support

MATHJAX may be used in EPUB documents. Some e-readers include MATHJAX, but any given reader may or may not have a recent version, and may or may not include extensions such as support for siunitx.

lwarf adds some modifications to MathML to support equations numbered by chapter. These modifications may not be compatible with the e-reader's version of MATHJAX, so lwarf requests that a known version be loaded instead. In some cases chapter numbering of equations still doesn't work.

Until math support in EPUB documents is improved, it is recommended to use SVG images instead of MATHJAX, especially for equations numbered by chapter, or where siunitx support is important.

11 Word-processor conversion

lwarf may be told to modify its HTML output to make it easier to import the HTML document into a word processor. At the time of this writing, it seems that LibreOffice works best at preserving table layout, but it still has some limitations, such as an inability to automatically assign figure and table frames and captions according to user-selected HTML classes. lwarf provides some assistance in locating these frame boundaries, as shown below.

11.1 Activating word-processor conversion

A special boolean is provided to simplify the process of converting lwarf HTML output to EPUB:

FormatWP	
Bool FormatWP Default: false	Changes HTML output for easier conversion by a word processor. Removes headers and nav, prints footnotes per section, and also forces single-file output and turns off HTML debug comments. Additionally, honors the booleans WPMarkFloats, WPMarkMinipages, WPMarkTOC, and WPMarkLOFT.

To help modify lwarf HTML output for easier import to a word processor, add

```
\booltrue{FormatWP}
```

to the project's source preamble after lwarf is loaded. The following changes are then made to the HTML output:

- If using a class without chapters, \section and lower are shifted up in level for the HTML heading tags. The css has not been changed, so the section heading formats will not match the normal HTML output, but when imported to *LibreOffice Writer* the higher section headings will import as **Heading 1** for the title, **Heading 2** for \section, etc.
- Headers, footers, and navigation are removed at file splits.
- Any accumulated footnotes are printed at the bottom of each section.
- Forces single-file output.
- Turns off HTML debugging comments. These are comments appearing inside the HTML code, marking the opening/closing of sections and <div>s, but they are no longer useful when the document has been imported into a word processor.
- An additional <div> with an id encapsulates each float and minipage, which on import into *LibreOffice Writer* causes a thin frame to appear around the text block for each.
- Float captions are given an explicit italic formatting.

- Tabular rule borders are made explicit for *LibreOffice Writer*. LIBREOFFICE displays a light border around each cell while editing, even those which have no border when printed, and lwarp also uses a light border for thin rules, so it will be best to judge the results using the print preview instead of while editing in LIBREOFFICE.
- \includegraphics and svg math width and height are made explicit for LIBREOFFICE.
- \hspace is approximated by a number of \quads, and rules are approximated by a number of underscores.
- Explicit HTML styles are given to:
 - \textsc, etc.
 - \underline, soul and ulem markup.
 - center, flushleft, flushright.
 - \marginpar, keyfloat, sidenotes, floatflt, and wrapfig.
 - fancybox \shadowbox, etc.
 - The LATEX and TEX logos.
- Honors several booleans:

WPMarkFloats: Marks the begin and end of floats.

WPMarkMinipages: Marks the begin and end of minipages.

WPMarkTOC: Marks the location of the Table of Contents.

WPMarkLOFT: Marks the locations of the List of Figures/Tables.

WPMarkMath: Prints LATEX math instead of using images.

WPTitleHeading: Adjusts title and section headings.

Several of these may be used to add markers to the HTML text which help determine where to adjust the word processor document after import.

11.2 Additional modifications

WPMarkFloats

Bool WPMarkFloats
Default: false

Adds

```
==== begin table ====
. . .
==== end ===
```

or

```
==== begin figure ====
. . .
==== end ===
```

around floats while formatting for word processors. This helps identify boundaries of floats to be manually converted to word-processor frames and captions.

WPMarkMinipages

Bool WPMarkMinipages

Default: false

Adds

```
==== begin minipage ====
. . .
==== end minipage ===
```

around minipages while formatting for word processors. This helps identify boundaries of minipages to be manually converted to word-processor frames.

WPMarkTOC

Bool WPMarkTOC

Default: true

While formatting for word processors, adds

```
==== table of contents ===
```

where the Table of Contents would have been. This helps identify where to insert the actual TOC.

If set false, the actual TOC is printed instead.

WPMarkLOFT

Bool WPMarkLOFT

Default: false

While formatting for word processors, adds

```
==== list of figures ==== and/or
==== list of tables ====
```

where each of these lists would have been. This helps identify where to insert the actual lists.

If set false, the actual lists are printed instead.

WPMarkMath

siunitx

Bool WPMarkMath

Default: false

Prog TeXMaths

While formatting for word processors, prints math as L^AT_EX code instead of creating SVG images or MATHJAX. This is useful for cut/paste into the *LibreOffice Writer TeXMaths* extension.

When using the siunitx package, enter

```
\usepackage{siunitx}
```

in the *TeXMaths* preamble. Equation numbering is problematic for *AMS* math environments.

Table 8: Section HTML headings for word-processor conversion

Section	HTML headings*			
	With \chapter		Without \chapter	
	WPTitleHeading	WPTitleHeading	WPTitleHeading	WPTitleHeading
Title	<h1>	plain	<h1>	plain
\book	<div>	<div>	<div>	<div>
\part	<h2>	<h1>	<h2>	<h1>
\chapter	<h3>	<h2>	—	—
\section	<h4>	<h3>	<h3>	<h2>
\subsection	<h5>	<h4>	<h4>	<h3>
\paragraph	<h6>	<h5>	<h5>	<h4>
\ subparagraph		<h6>	<h6>	<h5>

* For default depths when not FormatWP, see table 9 on page 189.

WPTitleHeading

Bool WPTitleHeading
 Default: false
 section headings

While formatting for word processors, true sets the document title to <h1>, which is expected for HTML documents, but also causes the lower-level section headings to start at **Heading 2** when imported into LIBREOFFICE. Set to false to cause the title to be plain text, and the section headings to begin at **Heading 1**.

See table 8 on page 173.

11.3 Recommendations

TOC, LOF, LOT For use with *LibreOffice Writer*, it is recommended to:

1. Set \booltrue{FormatWP}
2. Set \booltrue{WPMarkTOC} and \boolfalse{WPMarkLOFT}
3. Use `lwarp` to generate the HTML document.
4. Copy/paste from the HTML document into an empty *LibreOffice Writer* document.
5. Manually insert a LIBREOFFICE TOC in the LIBREOFFICE document.
6. Manually add frames around each float, adding a caption which is cut/pasted from each float's simulated caption.
7. Manually create cross references.

This process yields a document with an actual LIBREOFFICE Table of Contents, but a simulated List of Figures and List of Tables.

siunitx For **siunitx**, remember to adjust the preamble as mentioned above.

LO view border options LIBREOFFICE has options in the **View** menu to turn on/off the display of thin borders around table cells and text objects.

11.4 Limitations

Floats and captions are not explicitly converted to LIBREOFFICE floats with their own captions. Floats are surrounded by a thin frame in the LIBREOFFICE editor, and may be marked with WPMarkFloats, but are not given a proper LIBREOFFICE object frame. Captions are given an explicit italic formatting, but not a proper LIBREOFFICE paragraph style.

Cross references are not actual LIBREOFFICE linked cross references.

The List of Figures and List of Tables are not linked. The pasted pseudo LOF and LOT match the numbering of the L^AT_EX and HTML versions.

Equation numbering is not automatic, but the equation numbers in SVG math will match the L^AT_EX and HTML output. SVG math is recommended when using the *AMS* environments, which may have multiple numbered equations per object.

As of when last checked, LIBREOFFICE ignores the following:

- Minipage alignment.
 - Tabular cell vertical alignment.
 - Image rotation and scaling.
 - Rounded border corners, which are also used by:
 - \textcircled
 - booktabs trim
 - \hspace and rules, also used by algorithmic.
 - Coloring of text decorations, used by soul and ulem.
 - Overline text decoration, used by romanbar.

LIBREOFFICE also has limitations with frames and backgrounds:

- Multiple lines in an object are framed individually instead of as a whole.
 - Nested frames are not handled correctly.
 - Images inside boxes are not framed correctly.
 - Spans with background colors and frames are not displayed correctly.

12 Modifying l warp

locating something To quickly find the source for a package in `l warp.dtx`, search for `*packagename`, such as `*siunitx`.

Likewise, to quickly find the source for a file in `l warp.dtx`, search for `*filename`, such as `*l warp.css`.

Purely text-based packages probably will work as-is when generating HTML.

Look to existing code for ideas on how to expand into new code.

image of TeX output An environment may be converted to a `lateximage` then displayed with an image of the resulting L^AT_EX output. See section 88 for an example of the `picture` environment.

css classes To create a custom HTML block or inline css class, see section 51.9.

print/HTML macros To create print and HTML versions of the same macro or environment, see section 36.

⚠ TEX boxes Any TeX boxes must be undone, as `svg` math or `lateximages` require `\newpage`, which will not work in a TeX box.

index recreation To recreate the index for the `l warp` documentation:

```
makeindex -s gglo.ist -o l warp.gls l warp.glo
splitindex l warp.idx -- -s gind.ist
```

12.1 Creating a development system

The following creates a local development system for `l warp` on a TeXLive system in a UNIX-like environment. Doing so allows anything requesting `l warp` to use the development version instead of whichever version is installed in TeXLive.

Create a development directory:

Place into this directory `l warp.dtx` and `l warp.ins`.

To create `l warp.sty`, execute

Enter ⇒ **`pdflatex l warp.ins`**

which creates `l warp.sty` and several hundred additional `l warp-*.sty` files for the various packages which are supported.

To create the documentation `l warp.pdf`, execute

Enter ⇒ **`pdflatex l warp.dtx`**

To make the development files visible to other projects:

Create the directory

`/usr/local/texlive/texmf-local/tex/latex/local/l warp`

Inside this directory, create the file update, containing:

```
ln -s /path_to_dev_directory/lwarp*.sty .
ln -s /path_to_dev_directory/lwarp_baseline_marker.png .
ln -s /path_to_dev_directory/lwarp_baseline_marker.eps .
mktexlsr
```

Run ./update now, and whenever a new lwarp-* package is added.

To make the development version of *lwarpmk* visible to other projects:

```
cd /opt
ln -s /usr/local/texlive/texmf-local/bin/x86_64-linux texbin_local
cd texbin_local
ln -s ../../scripts/lwarp/lwarpmk.lua lwarpmk
cd /usr/local/texlive/texmf-local/scripts/
mkdir lwarp
cd lwarp
ln -s /path_to_dev_directory/lwarpmk.lua lwarpmk
```

Verify that the correct version is found with

Enter ⇒ **which lwarpmk**

To make the local versions visible to the shell:

Paths must be set by the shell startup, such as in .bashrc and .cshrc:

In .bashrc:

```
PATH=/opt/texbin_local:/opt/texbin:$PATH
```

In .cshrc:

```
setenv PATH ${HOME}/bin:/opt/texbin_local:/opt/texbin:${PATH}
```

12.2 Modifying a package for lwarp

If a class loads additional packages, it will be required to modify the class for **lwarp**, since **lwarp** must be loaded before most other packages.

To work with **lwarp**, a class must first set up anything which replicates the functions of the basic L^AT_EX classes, load any required fonts, then load **lwarp**, then finally load and adjust any other required packages.

When creating **HTML**, **lwarp** redefines the \usepackage and \RequirePackage macros such that it first looks to see if a **lwarp-<packagename>.sty** version exists. If so, the **lwarp** version is used instead. This modular system allows users to create their own versions of packages for **lwarp** to use for **HTML**, simply by creating a new package with a **lwarp-** prefix. If placed in the local directory along with the source code, it will be

seen by that project alone. If placed alongside the other `lwarp-` packages where `TEX` can see it, then the user's new package will be seen by any documents using `lwarp`. (Remember `mktexlsr` or `texhash`.)

An `lwarp-<packagename>.sty` package is only used during `HTML` generation. Its purpose is to pretend to be the original package, while modify anything necessary to create a successful `HTML` conversion. For many packages it is sufficient to simply provide nullified macros, lengths, counters, etc. for anything which the original package does, while passing the raw text on to be typeset. See the pre-existing `lwarp-` packages for examples.

Anything the user might expect of the original package must be replaced or emulated by the new `lwarp-` package, including package options, user-adjustable counters, lengths, and booleans, and conditional behaviors. In many of these packages, most of the new definitions have a “local” prefix according to the package name, and @ characters inside the name, which hides these names from the user. In most cases these macros will not need to be emulated for `HTML` output. Only the “user-facing” macros need to be nullified or emulated.

Each `lwarp-*` package should first call either of:

```
\LWR@ProvidesPackageDrop  
— or —  
\LWR@ProvidesPackagePass
```

If “Drop”ped, the original print-version package is ignored, and only the `lwarp-` version is used. Use this where the original print version is useless for `HTML`. If “Pass”ed, the original package is loaded first, with the user-supplied options, then the `lwarp-` version continues loading as well. See section 392 (`ntheorem`) for an example of selectively disabling user options for a package. Use this when `HTML` output only requires some modifications of the original package. For a case where the original package is usable without changes, there is no need to create a `lwarp-` version.

12.2.1 Adding a package to the `lwarp.dtx` file

When adding a package to `lwarp.dtx` for permanent including in `lwarp`, provide the `lwarp-<packagename>` code in `lwarp.dtx`, add its entry into `lwarp.ins`, and also remember to add

```
\LWR@loadafter{<packagename>}
```

to `lwarp.dtx` in section 20.1. This causes `lwarp` to stop with an error if `packagename` is loaded before `lwarp`. Finally, add an entry in table 2, `Supported packages and features`, and also the Updates section.

12.3 Modifying a class for `lwarp`

If a class loads additional packages, it will be required to modify the class for `lwarp`, since `lwarp` must be loaded before most other packages.

To work with **l warp**, a class must first set up anything which replicates the functions of the basic L^AT_EX classes, load any required fonts, then load **l warp**, then finally load and adjust any other required packages.

12.4 Testing l warp

When changes have been made, test the print output before testing the HTML. The print output compiles faster, and any errors in the printed version will be easier to figure out than the HTML version.

Remember that the configuration files are only rewritten when compiling the printed version of the document.

When changing the source to *l warpmk* or a css file in *l warp.dtx*:

1. Change the source in *l warp.dtx*.
2. pdflatex *l warp.ins*
3. pdflatex *l warp.dtx*
4. If modifying *l warpmk* the new version should now be active.
5. If modifying css files:
 - (a) For the document, *l warpmk print* to update the css files in the project.
 - (b) Reload the HTML document to see the effect of the new css files.

Sometimes it is worth checking the <project>_html.pdf file, which is the PDF containing HTML tags. Also, <project>_html.html has the text conversion of these tags, before the file is split into individual HTML files.

It is also worth checking the browser's tools for verifying the correctness of HTML and css code.

12.5 Modifying l warpmk

Prog l warpmk In most installations, *l warpmk.lua* is an executable file located somewhere the operating system knows about, and it is called by typing **l warpmk** into a terminal.
File l warpmk.lua

A project-local copy of *l warpmk.lua* may be generated, modified, and then used to compile documents:

1. Add the *l warpmk* option to the *l warp* package.
2. Recompile the printed version of the document. The *l warpmk* option causes *l warp* to create a local copy of *l warpmk.lua*
3. The *l warpmk* option may now be removed from the *l warp* package.

4. Copy and rename `lwarpmk.lua` to a new file such as `mymake.lua`.
5. Modify `mymake.lua` as desired.
6. If necessary, make `mymake.lua` executable.
7. Use `mymake.lua` instead of `lwarpmk.lua`.

13 Troubleshooting

13.1 l warp package error conditions and warnings

l warp tests for a number of error conditions and prints appropriate warnings. The following is a summary of these conditions.

13.1.1 Configuration file `lwarpmk.conf`

File does not exist: The configuration file must exist for `lwarpmk`.

Incorrect Unix /Windows selection: The operating system which was detected by l warp. So far only Unix and Windows are supported.

Incorrect delimiter characters. Older versions of `lwarpmk` used a different delimiter.

Source name is set to l warp: l warp has recently been recompiled in this directory, which overwrote the project's configuration files. This also occurs if `lwarpmk` is executed in l warp's source directory.

Incorrect operating system: The configuration file was set for a different operating system, perhaps due to sharing in a collaborative project.

Outdated configuration files: l warp has been updated since this project was last compiled. If there appears to be a valid print command in the file, `lwarpmk` displays this to instruct the user how to recompile the print version, which then updates the configuration files.

The designated source file does not exist: For whatever reason...

Unknown engine: l warp cannot determine which engine is being used. Supported are DVI L^AT_EX, PDF L^AT_EX, XE^LL^AT_EX, L^AU^LTEX, and upL^AT_EX.

13.1.2 Image generation with `lwarpmk limages`

“Wait a moment for the images to complete before reloading page.”:

Images are generated by background tasks. If the document is reloaded before these tasks are complete, some images may not yet be generated. `lwarpmk` tries to wait for background tasks to complete before exiting.

HTML version does not exist: Images are extracted from the HTML version, which must be compiled before images are generated.

***-images.txt does not exist:** This file tells which images to extract from the HTML file. If the file does not exist, it may be that no SVG math or lateximages were used. If so, `lwarpmk limages` is not necessary.

Cross references are not correct: The document must have up-to-date cross references to locate the images to extract. A number of conditions may cause incorrect cross references.

“WARNING: Images will be incorrect.”: An image reference was not found. Recompile.

l warpmk epstopdf * or **l warpmk pdftosvg ***: Errors if filenames are not found.

13.1.3 Default bitmapped font

l warp requires the use of a vector font. If l warp detects that the document uses the default COMPUTER MODERN font, and the cm-super package is not installed, it is assumed that the font is bitmapped. An error is generated, along with the recommendation to install cm-super or use lmodern.

13.1.4 Packages

Loaded before l warp: Some packages and classes must be loaded before l warp. These include input and font encoding, morewrites and newclude, and a number of CJK-related packages and classes.

Loaded after l warp: Most packages which are modified by l warp must be loaded after l warp.

Loaded never: Some packages do not work with l warp. An error is generated, along with a list of alternatives to consider.

Specific packages: Some packages enforce a specific load order vs. certain other packages.

Patching error: l warp tries to patch some packages using xpatch. If the original package has been updated more recently than l warp, a patch may not work. It may be necessary to use an older version of the package until l warp is updated.

longtable: l warp’s longtable package issues detailed error messages regarding the use of the table headers and footers.

polyglossia: If used, an informative message is printed to instruct the user to be sure to set a language, without which an error will occur.

babel or polyglossia: An informative message is printed to note that not all languages are supported by cleveref.

13.1.5 Compiling

SideTOCDepth < FileDepth: A warning is displayed if these counters are set such that the sidetoc will not be able to access all pages of the website.

Duplicate filenames: l warp may generate file names from section names. While doing so, the filenames are simplified and special characters are removed. If this process generates a duplicate filename, an error is generated, describing the filename and which section name generated it.

-  **HTML corrupted**
- Mutirow:** When `\multirow` or `\multicolumn` are used, `\mrowcell` or `\mcolrowcell` must be placed in the appropriate cells to avoid corrupted HTML output.
 - (width,height) missing a comma:** `\makebox` and `\framebox` can accept a parenthesis-delimited width and height, which must be separated by a comma.
 - “Load graphicx or graphics for improved SVG math baselines.”:** SVG math sizing and baselines are improved if either of these packages are used.
 - “Load graphicx or graphics for improved XeTeX logo.”:** If these packages are loaded, the XE^TEX logo can use the reversed “E”.
 - “It is recommended to use [width=xx\linewidth] instead of [scale=yy] ”:** Browser support of scale does not have the same effect as in L^AT_EX.

13.2 Using the lwarp package

The following address problems which may occur, and possible solutions to each.

Also see:

- Section 7.10: Commands to be placed into the `warpprint` environment
- Section 8: Special cases and limitations

-  **HTML corrupted** **Text is not converting correctly / corrupted HTML tags:**

- Font-related UTF-8 information must be embedded in the PDF file. See section 7.4 regarding bitmapped vs. vector fonts.
- See section 8.2.1 regarding HTML entities and the characters &, <, and >.

-  **dotlessj** **Dotless j (\j):** See section 7.4 regarding `cmap`, `mmap`.

Undefined HTML settings:

- See the warning regarding the placement of the HTML settings at section 7.6.

Tabular problems: See section 8.10.1.

Obscure error messages:

Print first: Be sure that a print version of the document compiles and that your document's L^AT_EX code is correct, before attempting to generate an HTML version.

\end{warpHTML}, \end{warpprint}, \end{warpall}: Each of these must be without any other characters on the same line.

Options clash: If using `memoir`, see section 8.13.

“Missing \begin{document}.”: Some packages require that their options be specified before `lwarp` is loaded, or via the package's setup macro, especially if these options include the use of braces. See section 8.1.

“No room for a new \write.”: Before `\usepackage{lwarp}`, add:

```
\usepackage{morewrites}
\morewritessetup{allocate=10}
```

”! TeX capacity exceeded, sorry [text input levels=15].”: Packages were nested too many levels deep. Locate the file `texmf.cnf` for your distribution, and add the line

```
max_in_open = 30
```

”Missing \$ inserted.”: If using a filename or URL in a footnote or `\item`, escape underscores with `_`.

”Label(s) may have changed. Rerun to get cross-references right.”:

This warning may repeat endlessly if a math expression is used in a caption. Simple math expressions such as `$X=1$` may be replaced with

```
\textit{X},=,1
```

”Leaders not followed by proper glue”:

This can be caused by a missing `\@fleattype` or `\@sectiontype` definition. See `lwarp`'s definitions for examples.

”Improper \prevdepth”: `lateximages` and `svg` math require `\newpage`, which cannot work inside `TEX` boxes or `\ensuremath`. Anything using `\newsavebox`, `\newbox`, `\rbox`, `\savebox`, `\hbox`, `\vbox`, `\usebox`, `\sbox`, etc., must be modified to work without box commands.

If you find something using `\ensuremath`, have it temporarily set:

```
\LetLtxMacro\@ensuredmath\LWR@origensuredmath
```

inside a group first.

Also, custom macros which appear inside a section, figure, or table name should be made robust since they appear inside the `.toc`, `.lof`, or `.lot` files. Use `\newrobustcmd` or `\robustify` from `etoolbox`, `xparse`, etc.

If using BibTeX, see section 8.6.9.

”! Undefined control sequence. . . . \@begindocumenthook”:

See section 8.15.4 if using polyglossia.

”\begin{equation} ended by \end{document}”: Do not use custom macros such as `\beq` and `\eeq` to replace

```
\begin{equation}
...
\end{equation}
```

”Misplaced \omit”: If using `\LWR@formatted` to define new macros for print and HTML modes, see section 36 regarding `\LWR@expandableformatted`.

Complicated objects inside math: Some objects, such as Tikz, may not compile in `lwarp`'s normal math emulation. Insert

```
\displaymathother — or — \inlinemathother
```

before the math, and then

```
\displaymathnormal — or — \inlinemathnormal
```

when displaying “normal” math. See section 8.7.9.

Slow compilation of math objects: Complicated math objects can also cause problems with alt tags, resulting in very slow compilation, large alt tags,

⚠ macros in
section,table,figure names

⚠ BibTeX

⚠ polyglossia

⚠ custom macros for
environments

⚠ \LWR@formatted

⚠ “impure” math objects

and possible crashes. Use `\inlinemathother ... \inlinemathnormal` or `\displaymathother ... \displaymathnormal` around the math expression.

 **MATHJAX** **Incorrect MATHJAX:** Some objects do not convert to MATHJAX. Use `\displaymathother` before these objects, then `\displaymathnormal` to return to “normal” display math. See section 8.7.9.

Missing sections: See section 7.6 regarding the `FileDepth` and `SideTOCDepth` counters, and the use of `\tableofcontents` in the home page.

Misnumbered footnotes from section headings: See section 8.5.4.

Missing HTML files:

- See the warning regarding changes to the HTML settings at section 7.6.
- Ensure that the filenames are unique after math and short words are removed. See `FileSectionNames` at section 7.6.

Missing / incorrect cross-references:

- Use `lwarpmk` again followed by `lwarpmk html` or `lwarpmk print` to compile the document one more time.
- Labels with special characters may be a problem. It is best to stick with alpha-numeric, hyphen, underscore, and perhaps the colon (if not French). `\nameref` refers to the most recently-used section where the `\label` was defined. If no section has been defined before the `\label`, the link will be empty. Index entries also use `\nameref` and have the same limitation.
- `cleveref` and `varioref` are supported, but printed page numbers do not map to HTML, so a section name or a text phrase are used for `\cpageref` and `\cpagerefrange`. This phrase includes `\cpagerefFor`, which defaults to “for”.

Ex:

`\cpageref{tab:first,tab:second}`

in `html` becomes:

“pages for table 4.1 and for table 4.2”

See `\cpagerefFor` at page 551 to redefine the message which is printed for page number references.

BibTeX errors with `\etalchar`: See section 8.6.9.

Malformed URLs: Do not use the % character between arguments of `\hyperref`, etc., as this character is among those which is neutralized for inclusion in HTML URLs.

Em-dashes or En-dashes in listing captions and titles:

Use X_ELATEX or LuaLATEX.

Floats out of sequence:

Mixed “Here” and floating: Floats [H]ere and regular floats may become out of order. `\clearpage` if necessary.

Caption setup: With `\captionsetup` set the positions for the captions above or below to match their use in the source code.

Images are appearing in strange places:

 **labels**
 **label characters**
 **\nameref**
 **empty link**

 **cleveref** page numbers

- Enter `lwarpmk limages` to refresh the `\teximage` images.

SVG images:

 **adding/removing**

When a math expression, picture, or Tikz environment is added or removed, the SVG images must be re-created by entering `lwarpmk limages` to maintain the proper image-file associations. Inline SVG math may be hashed and thus not need to be recreated, but display math and objects such as Tikz may move to new image numbers when the document is changed.

recompile first

Before attempting to create the SVG image files, `lwarpmk` verifies that the HTML version of the document exists and has correct internal image references.¹⁵ If it is necessary to recompile the document's HTML version one more time, `lwarpmk` usually will inform the user with an error message, but there are some conditions which cannot be detected, so the user should watch for the L^AT_EX recompile warnings.

 **HTML instead of images**

If HTML appears where an SVG image should be, recompile the document one more time to get the page numbers back in sync, then remake the images one more time.

 **page counter**

Incorrect SVG images will also occur if the document changes the page counter:

```
\setcounter{page}{<value>}
```

The page counter must *not* be adjusted by the user.

Expressing math as SVG images has the advantage of representing the math exactly as L^AT_EX would, but has the disadvantage of requiring an individual file for each math expression. For inline math, and some other objects, lwarf uses an MD5 hash on its L^AT_EX source to combine multiple instances of identical inline expressions into a single image file, but display math and other environments such as picture and Tikz require one image file each. For a document with a large amount of math, see section 5.5 to use MATHJAX instead.

Plain-looking document:

- The document's CSS stylesheet may not be available, or may be linked incorrectly. Verify any `\CSSFilename` statements point to a valid CSS file.

 **HTML corrupted**

Broken fragments of HTML:

- Check the PDF file used to create HTML to see if the tags overflowed the margin. (This is why such large page size and margins are used.)

Changes do not seem to be taking effect:

- Be sure to `lwarpmk clean`, recompile, then start by reloading the home page. You may have been looking at an older version of the document. If you changed a section name, you may have been looking at the file for the old name.
- See the warning regarding changes to the HTML settings at section 7.6.
- Verify that the proper CSS is actually being used.
- The browser may compensate for some subtle changes, such as automatically generating ligatures, reflowing text, etc.

¹⁵This becomes important when dealing with a document containing thousands of images.

Un-matched conditional compiles:

- Verify the proper begin/end of warpprint, warpHTML, and warpall environments.

13.2.1 Debug tracing output

\tracingl warp When \tracingl warp is used, l warp will add extra tracing messages to the .log file. The last several messages may help track down errors.

Place \tracingl warp just after \usepackage{l warp} to activate tracing.

13.3 Compiling the l warp.dtx file

l warp_tutorial.tex: Copy or link l warp_tutorial.txt from the TDS doc directory to the source directory, or wherever you wish to compile the documentation. This file is included verbatim in the documentation, but is in the doc directory so that it may be found by *texdoc* and copied by the user.

Illogical error messages caused by an out-of-sync l warp.sty file:

1. Delete the l warp.sty file.
2. Enter **pdflatex l warp.ins** to generate a new l warp.sty file.
3. Enter **pdflatex l warp.dtx** to recompile the l warp.pdf documentation.

Un-nested environments:

Be sure to properly nest:

- \begin{macrocode} and \end{macrocode}
- \begin{macro} and \end{macro}
- \begin{environment} and \end{environment}

14 Trademarks

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File 1 **lwarp.sty**

15 Implementation

This package is perhaps best described as a large collection of smaller individual technical challenges, in many cases solved through a number of crude hacks clever tricks. Reference sources are given for many of the solutions, and a quick internet search will provide additional possibilities.

Judgement calls were made, and are often commented. Improvements are possible. The author is open to ideas and suggestions.

Packages were patched for re-use where they provided significant functionality. Examples include `xcolor` with its color models and conversion to `HTML` color output, and `siunitx` which provides many number and unit-formatting options, almost all of which are available in pure-text form, and thus easily used by `pdftotext`.

Packages were emulated where their primary purpose was visual formatting which is not relevant to `HTML` output. For example, packages related to sectioning are already patched by numerous other packages, creating a difficult number of combinations to try to support, and yet in `HTML` output all of the formatting is thrown away, so these packages are merely emulated.

Packages with graphical output are allowed as-is, but must be nested inside a `lateximage` environment to preserve the graphics.

Testing has primarily been done with the Iceweasel/Firefox browser.

Table 9: Section depths and HTML headings

Section	LATEX depth	HTML headings *
Title of the entire website		<h1>
(none)	-5	new for this package
book	-2	<div class = "book">
part	-1	<h2>
chapter	0	<h3>
section	1	<h4>
subsection	2	<h5>
subsubsection	3	<h6>
paragraph	4	
subparagraph	5	
listitem	7	new for this package, used for list items

* If FormatWP is true, section headings may be adjusted, depending on WPTitleHeading. See table 8 on page 173.

16 Section depths and HTML headings

Stacks are created to track depth inside the LATEX document structure. This depth is translated to HTML headings as shown in table 9. “Depth” here is not depth in the traditional computer-science stack-usage sense, but rather a representation of the nesting depth inside the LATEX document structure.

When starting a new section, the program first must close out any existing sections and lists of a deeper level to keep the HTML tags nested correctly.

Support for the memoir package will require the addition of a book level, which may push the HTML headings down a step, and also cause subsubsection to become a <div> due to a limit of six HTML headings.

It is possible to use HTML5 <section> and <h1> for all levels, but this may not be well-recognized by older browsers.

Fixed levels for parts and chapters allow the css to remain fixed as well.

17 Source code

This is where the documented source code for `lwarf` begins, continuing through the following sections all the way to the change log and index at the end of this document.

The following sections document the actual implementation of the `lwarf` package.

line numbers The small numbers at the left end of a line refer to line numbers in the `lwarf.sty` file.

subjects Blue-colored tags in the left margin aid in quickly identifying the subject of each paragraph.

objects Black-colored tags in the left margin are used to identify programming objects such as files, packages, environments, booleans, and counters. Items without a tag are

index entries command macros. Each of these also appears in the index as individual entries, and are also listed together under “files”, “packages”, “environments”, “booleans”, and “counters”.

 **warnings** Special warnings are marked with a warning icon.

for HTML output: Green-colored tags in the left margin show which sections of source code apply to the generation of HTML, print, or both forms of output.

for PRINT output:

for HTML & PRINT:

18 Detecting the **TEX** engine — *pdflatex*, *lualatex*, *xelatex*

See: <http://tex.stackexchange.com/a/47579>.

Detects XETEX and LUALXETEX:

```

1 \RequirePackage{iftex}[2019/11/07]
2
3 \newif\ifxetexorluate
4
5 \ifXeTeX
6     \xetexorluatetrue
7 \else
8     \ifLuaTeX
9         \xetexorluatetrue
10    \else
11        \xetexorluatefalse
12    \fi
13 \fi

```

19 Early package requirements

Pkg `etoolbox` Provides `\ifbool` and other functions.

Pkg `xpatch` Patches macros with optional arguments.

```

14 \RequirePackage{etoolbox}[2011/01/03]%
15 \RequirePackage{xpatch}

```

Pkg `ifplatform` Provides `\ifwindows` to try to automatically detect WINDOWS OS.

```
16 \RequirePackage{ifplatform}%

```

Pkg `letltxmacro`

```
17 \RequirePackage{letltxmacro}
```

20 Package load order

Several packages must never be used with `l warp`, others should only be loaded before `l warp`, and others should only be loaded after. The `l warp` core checks most of these cases. In some `l warp-*` packages, `\LWR@loadbefore` is used to trigger an error if they are loaded after `l warp`, while additional code provides necessary patches for when they are loaded before.

Packages which must be loaded after `l warp` are enfoed by a large number of `\LWR@loadafter` statements, below. Some packages are emulated by `memoir`, and

so these are tested by \LWR@notmemoirloadafter, which does not cause an error if memoir is used.

\LWR@checkloadfilename is used to check each filename to see if it must never be loaded, or must always be loaded before l warp.

20.1 Tests of package load order

\LWR@loadafter {*packagename*} Error if this package was loaded before l warp.

```

18 \newcommand*{\LWR@loadafter}[1]{%
19 \@ifpackageloaded{#1}%
20 {%
21   \PackageError{l warp}%
22   {%
23     Package #1,\MessageBreak
24     or one which uses #1,\MessageBreak
25     must be loaded after l warp
26   }%
27   {Move \detokenize{\usepackage}{#1} after
28   \detokenize{\usepackage}{l warp}.\MessageBreak
29   Package #1 may also be loaded by something else,\MessageBreak
30   which must also be moved after l warp.}%
31 }%
32 {}%
33 }
```

\LWR@notmemoirloadafter {*packagename*} Error if not memoir class and this package was loaded before l warp.

memoir emulates many packages, and pretends that they have already been loaded.

```

34 \@ifclassloaded{memoir}%
35 {\newcommand*{\LWR@notmemoirloadafter}[1]{}}
36 {\LetLtxMacro{\LWR@notmemoirloadafter}\LWR@loadafter}
```

\LWR@notltjloadafter {*packagename*} Error if not a ltjs* class and this package was loaded before l warp.

```

37 \LetLtxMacro{\LWR@notltjloadafter}\LWR@loadafter
38
39 \@ifclassloaded{ltjarticle}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}}
40 \@ifclassloaded{ltjbook}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}{}}
41 \@ifclassloaded{ltjreport}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}{}}
42 \@ifclassloaded{ltjsarticle}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}{}}
43 \@ifclassloaded{ltjsbook}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}{}}
44 \@ifclassloaded{ltjsreport}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}{}}
45 \@ifclassloaded{ltjspf}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}{}}
46 \@ifclassloaded{ltjskiyou}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}{}}
47 \@ifclassloaded{ltjtarticle}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}{}}
48 \@ifclassloaded{ltjtbook}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}{}}
49 \@ifclassloaded{ltjtreport}{\renewcommand*{\LWR@notltjloadafter}[1]{}{}{}}
```

\LWR@loadbefore {*packagename*} Error if this package is loaded after l warp.

```

50 \newcommand*{\LWR@Loadbefore}[1]{%
51 \@ifpackageloaded{#1}%
52 {}%
53 {%
54     \PackageError{l warp}%
55     {Package #1 must be loaded before l warp}%
56     {Move \detokenize{\usepackage}{#1} before \detokenize{\usepackage}{l warp}.}%
57 }%
58 }
```

\LWR@checkloadbefore {*thispackagename*} {*packagename*}

If package names match, error if it is loaded after l warp.

```

59 \newcommand*{\LWR@checkloadbefore}[2]{%
60     \edef\LWR@tempone{#1}%
61     \ifdefstring{\LWR@tempone}{#2}{%
62         \LWR@loadbefore{#1}%
63     }{}%
64 }
```

\LWR@loadnever {*badpackagename*} {*replacementpkgnames*}

The first packages is not supported, so tell the user to use the second instead.

```

65 \newcommand*{\LWR@Loadnever}[2]{%
66 \PackageError{l warp}%
67 {}%
68     Package #1 is not supported.\MessageBreak%
69     by l warp's HTML conversion.\MessageBreak%
70     Package(s) #2 may be useful instead%
71 }%
72 {}%
73     Package #1 might conflict with l warp in some way,\MessageBreak%
74     or is superceded by another package.\MessageBreak%
75     For a possible alternative, see package(s) #2.%
76 }%
77 }
```

\LWR@checkloadnever {*thispackagename*} {*badpackagename*} {*replacementpkgnames*}

If this package name is the bad packagename, suggest the replacements instead.

```

78 \newcommand*{\LWR@checkloadnever}[3]{%
79     \edef\LWR@tempone{#1}%
80     \ifdefstring{\LWR@tempone}{#2}{%
81         \LWR@loadnever{#2}{#3}%
82     }{}%
83 }
```

\LWR@earlyloadnever {*badpackagename*} {*replacementpkgname*}

The first package is not supported, so tell the user to use the second instead. This version checks immediately for packages which may have been loaded before lwarp.

```

84 \newcommand*{\LWR@earlyloadnever}[2]{%
85     \@ifpackageloaded{#1}{%
86         \LWR@loadnever{#1}{#2}%
87     }{%
88 }

```

```
\LWR@earlyclassloadnever {\langle badclassname \rangle} {\langle replacementclassname \rangle}
```

The first class is not supported, so tell the user to use the second instead. This version checks immediately for classes which may have been loaded before lwarp.

```

89 \newcommand*{\LWR@earlyclassloadnever}[2]{%
90 \@ifclassloaded{#1}{%
91 \PackageError{lwarp}%
92 {%
93     Class #1 is not supported\MessageBreak
94     by lwarp's HTML conversion.\MessageBreak
95     Class(es) #2 may be useful instead
96 }
97 {%
98     Class #1 might conflict with lwarp in some way, \MessageBreak
99     or is superceded by another class.\MessageBreak
100    For a possible alternative, see class(es) #2.
101 }
102 }{}}%
103 }

```

20.2 Error for disallowed packages and classes loaded before lwarp

```

104 \LWR@earlyclassloadnever{jarticle}{ujarticle}
105 \LWR@earlyclassloadnever{jbook}{ujbook}
106 \LWR@earlyclassloadnever{jreport}{ujreport}
107 \LWR@earlyclassloadnever{tarticle}{utarticle}
108 \LWR@earlyclassloadnever{tbook}{utbook}
109 \LWR@earlyclassloadnever{treport}{utreport}
110 \LWR@earlyloadnever{ae}{cm-super, lmodern}
111 \LWR@earlyloadnever{aecmpl}{cm-super, lmodern}
112 \LWR@earlyloadnever{aecc}{cm-super, lmodern}
113 \LWR@earlyloadnever{alg}{algorithm2e, algorithmicx}
114 \LWR@earlyloadnever{algorithmic}{algorithm2e, algorithmicx}
115 \LWR@earlyloadnever{bitfield}{bytefield}
116 \LWR@earlyloadnever{boxedminipage}{boxedminipage2e}
117 \LWR@earlyloadnever{caption2}{caption}
118 % \LWR@earlyloadnever{ccaption}{caption} might be preloaded by memoir
119 \LWR@earlyloadnever{colortab}{colortbl}
120 \LWR@earlyloadnever{doublespace}{setspace}
121 \LWR@earlyloadnever{epsf}{graphicx}
122 \LWR@earlyloadnever{fancyheadings}{fancyhdr}
123 \LWR@earlyloadnever{fncylab}{cleveref}

```

```

124 \LWR@earlyloadnever{formula}{siunitx}
125 \LWR@earlyloadnever{glossary}{glossaries}
126 \LWR@earlyloadnever{hyper}{hyperref}
127 \LWR@earlyloadnever{newthm}{ntheorem}
128 \LWR@earlyloadnever{pdfcprot}{microtype}
129 \LWR@earlyloadnever{picinpar}{floatflt, wrapfig}
130 \LWR@earlyloadnever{pics}{floatflt, wrapfig}
131 \LWR@earlyloadnever{rplain}{fancyhdr}
132 \LWR@earlyloadnever{shadethm}{mdframed}
133 \LWR@earlyloadnever{si}{siunitx}
134 \LWR@earlyloadnever{sistyle}{siunitx}
135 \LWR@earlyloadnever{slashbox}{diagbox}
136 \LWR@earlyloadnever{statex}{statex2}
137 \LWR@earlyloadnever{t1enc}{fontenc, inputenc, inputenx}
138 \LWR@earlyloadnever{ucs}{inputenc, inputencx}
139 \LWR@earlyloadnever{wasysym}{textcomp, amssymb, amsfonts, mnsymbol, fdsymbol}

```

The older CJK and CJKutf8 only work with xeCJK:

```

140 \@ifpackageloaded{xeCJK}{}{
141     \LWR@earlyloadnever{CJK}{ctex, xeCJK}
142     \LWR@earlyloadnever{CJKutf8}{ctex, xeCJK}
143 }

```

bxcjkjatype is based on CJK:

```
144 \LWR@earlyloadnever{bxcjkjatype}{upLaTeX, bxjsarticle, ujarticle, utarticle}
```

hangul is not in TeXLive, and is not tested:

```
145 \LWR@earlyloadnever{hangul}{kotex, xetexko, luatexko}
```

20.3 Enforcing package loading after l warp

Packages which should only be loaded after l warp are tested here to trip an error if they have already been loaded.

The following packages must be loaded after l warp:

```

146 \LWR@loadafter{2in1}
147 \LWR@loadafter{2up}
148 \LWR@loadafter{a4}
149 \LWR@loadafter{a4wide}
150 \LWR@loadafter{a5comb}
151 \LWR@notmemoirloadafter{abstract}
152 \LWR@loadafter{academicons}
153 \LWR@loadafter{accessibility}
154 \LWR@loadafter{accsupp}
155 \LWR@loadafter{acro}
156 \LWR@loadafter{acronym}
157 \LWR@loadafter{adjmulticol}
158 \LWR@loadafter{addlines}
159 \LWR@loadafter{afterpage}
160 \LWR@loadafter{algorithm2e}

```

```
161 \LWR@loadaft{algorithmicx}
162 \LWR@loadaft{alltt}
163 \LWR@loadaft{amsmath}
164 \LWR@loadaft{amsthm}
165 \LWR@loadaft{anonchap}
166 \LWR@loadaft{any size}
167 \LWR@notmemoirloadaft{appendix}
168 \LWR@loadaft{ar}
169 \LWR@loadaft{arabicfront}
170 \LWR@notmemoirloadaft{array}
171 \LWR@loadaft{arydshln}
172 \LWR@loadaft{asymptote}
173 % \LWR@loadaft{atbegshi} used by morewrites
174 \LWR@loadaft{attachfile}
175 \LWR@loadaft{attachfile2}
176 \LWR@loadaft{authblk}
177 \LWR@loadaft{autobreak}
178 \LWR@loadaft{autonum}
179 \LWR@loadaft{awesomebox}
180 \LWR@loadaft{axessibility}
181 \LWR@loadaft{axodraw2}
182 \LWR@loadaft{backnaur}
183 \LWR@loadaft{backref}
184 \LWR@loadaft{balance}
185 \LWR@loadaft{bbding}
186 \LWR@loadaft{bigdelim}
187 \LWR@loadaft{bigfoot}
188 \LWR@loadaft{bigstrut}
189 \LWR@loadaft{bitpattern}
190 \LWR@loadaft{blowup}
191 \LWR@loadaft{bm}
192 \LWR@loadaft{booklet}
193 \LWR@loadaft{bookmark}
194 \LWR@notmemoirloadaft{booktabs}
195 \LWR@loadaft{bophook}
196 \LWR@loadaft{bounddvi}
197 \LWR@loadaft{boxedminipage2e}
198 \LWR@loadaft{braket}
199 \LWR@loadaft{breakurl}
200 \LWR@loadaft{breqn}
201 \LWR@loadaft{bsheaders}
202 \LWR@loadaft{bxpapersize}
203 \LWR@loadaft{bytefield}
204 \LWR@loadaft{cancel}
205 \LWR@loadaft{canoniclayout}
206 \LWR@loadaft{caption}
207 \LWR@loadaft{caption2}
208 \LWR@loadaft{cases}
209 % catoptions is supported by the lwarp core
210 % \LWR@loadaft{ccaption} may be preloaded by memoir
211 \LWR@loadaft{centernot}
212 \LWR@loadaft{changebar}
213 \LWR@loadaft{changelayout}
214 \LWR@notmemoirloadaft{changepage}
215 \LWR@loadaft{changes}
```

```
216 \LWR@loadafter{chappg}
217 \LWR@loadafter{chapterbib}
218 \LWR@loadafter{chemfig}
219 \LWR@loadafter{chemformula}
220 \LWR@loadafter{chemgreek}
221 \LWR@loadafter{chemmacros}
222 \LWR@loadafter{chemnum}
223 \LWR@loadafter{chkfloat}
224 \LWR@notmemoirloadafter{chngpage}
225 \LWR@loadafter{cite}
226 \LWR@loadafter{cmdtrack}
227 \LWR@loadafter{colonequals}
228 \LWR@loadafter{color}
229 \LWR@loadafter{colortbl}
230 \LWR@loadafter{continue}
231 \LWR@loadafter{copyrightbox}
232 \LWR@notmemoirloadafter{crop}
233 % ctex must be loaded before lwarp
234 \LWR@loadafter{ctable}
235 \LWR@loadafter{cuted}
236 \LWR@loadafter{cutwin}
237 \LWR@loadafter{dblfloatfix}
238 \LWR@loadafter{dblfnote}
239 \LWR@notmemoirloadafter{dcolumn}
240 \LWR@loadafter{decimal}
241 \LWR@loadafter{diagbox}
242 \LWR@loadafter{dingbat}
243 \LWR@loadafter{DotArrow}
244 \LWR@loadafter{dotlessi}
245 \LWR@loadafter{dprogress}
246 \LWR@loadafter{draftcopy}
247 \LWR@loadafter{draftfigure}
248 \LWR@loadafter{draftwatermark}
249 \LWR@loadafter{easy-todo}
250 \LWR@loadafter{ebook}
251 \LWR@loadafter{econometrics}
252 \LWR@loadafter{ed}
253 \LWR@loadafter{ellipsis}
254 \LWR@loadafter{embrac}
255 \LWR@loadafter{emptypage}
256 \LWR@loadafter{endfloat}
257 \LWR@loadafter{endheads}
258 \LWR@loadafter{endnotes}
259 \LWR@loadafter{engtlc}
260 \LWR@notmemoirloadafter{enumerate}
261 \LWR@loadafter{enumitem}
262 \LWR@notmemoirloadafter{epigraph}
263 \LWR@loadafter{epsfig}
264 \LWR@loadafter{epstopdf}
265 \LWR@loadafter{epstopdf-base}
266 \LWR@loadafter{eqlist}
267 \LWR@loadafter{eqparbox}
268 \LWR@loadafter{errata}
269 \LWR@loadafter{eso-pic}
270 \LWR@loadafter{etoc}
```

```
271 \LWR@loadaft{eurosym}
272 \LWR@loadaft{everypage}
273 \LWR@loadaft{everyshi}
274 \LWR@loadaft{extarrows}
275 \LWR@loadaft{extramarks}
276 \LWR@loadaft{fancybox}
277 \LWR@loadaft{fancyhdr}
278 \LWR@loadaft{fancyref}
279 \LWR@loadaft{fancytabs}
280 \LWR@loadaft{fancyvrb}
281 \LWR@loadaft{fewerfloatpages}
282 \LWR@loadaft{figcaps}
283 \LWR@loadaft{figsize}
284 \LWR@loadaft{fitbox}
285 \LWR@loadaft{fix2col}
286 \LWR@loadaft{fixme}
287 \LWR@loadaft{fixmetodonotes}
288 \LWR@loadaft{flafter}
289 \LWR@loadaft{flippdf}
290 \LWR@loadaft{float}
291 \LWR@loadaft{floatflt}
292 \LWR@loadaft{floatpag}
293 \LWR@loadaft{floatrow}
294 \LWR@loadaft{fltrace}
295 \LWR@loadaft{flushend}
296 \LWR@loadaft{fnbreak}
297 \LWR@loadaft{fncychap}
298 \LWR@loadaft{fnlineno}
299 \LWR@loadaft{fnpara}
300 \LWR@loadaft{fnpos}
301 \LWR@loadaft{fontawesom}
302 \LWR@loadaft{fontawesom5}
303 % fontenc must be loaded before lwarp
304 % fontspe must be loaded before lwarp
305 \LWR@loadaft{footmisc}
306 \LWR@loadaft{footnote}
307 \LWR@loadaft{footnotebackref}
308 \LWR@loadaft{footnotehyper}
309 \LWR@loadaft{footnoterange}
310 \LWR@loadaft{footnpag}
311 \LWR@loadaft{foreign}
312 \LWR@loadaft{forest}
313 \LWR@loadaft{fouridx}
314 \LWR@loadaft{framed}
315 \LWR@loadaft{ftcap}
316 \LWR@loadaft{ftnright}
317 \LWR@loadaft{fullminipage}
318 \LWR@loadaft{fullpage}
319 \LWR@loadaft{fullwidth}
320 \LWR@loadaft{fwlw}
321 \LWR@loadaft{gensymb}
322 \LWR@loadaft{gentombow}
323 % geometry is always loaded by lwarp, and lwarp-geometry is AtBeginDocument
324 \LWR@loadaft{ghsystem}
325 \LWR@loadaft{glossaries}
```

```
326 \LWR@loadaft{gmeometric}
327 % \LWR@loadaft{graphics} pre-loaded by xunicode
328 % \LWR@loadaft{graphicx} pre-loaded by xunicode
329 \LWR@loadaft{gloss}
330 \LWR@loadaft{glossary}
331 \LWR@loadaft{grffile}
332 \LWR@loadaft{grid}
333 \LWR@loadaft{grid-system}
334 \LWR@loadaft{gridset}
335 \LWR@loadaft{hang}
336 \LWR@loadaft{hanging}
337 \LWR@loadaft{hhline}
338 \LWR@loadaft{hypbmsec}
339 \LWR@loadaft{hypcap}
340 \LWR@loadaft{hypdestopt}
341 \LWR@loadaft{hypernat}
342 \LWR@loadaft{hyperref}
343 \LWR@loadaft{hyperxmp}
344 \LWR@loadaft{hyphenat}
345 \LWR@loadaft{idxlayout}
346 \LWR@loadaft{ifoddpage}
347 \LWR@loadaft{imakeidx}
348 \LWR@notmemoirloadaft{index}
349 % inputenc must be loaded before l warp
350 % inputenx must be loaded before l warp
351 % inputtrc may be loaded before l warp
352 \LWR@loadaft{intopdf}
353 \LWR@loadaft{karnaugh-map}
354 \LWR@loadaft{keyfloat}
355 \LWR@loadaft{layaureo}
356 \LWR@loadaft{layout}
357 \LWR@loadaft{layouts}
358 \LWR@loadaft{leading}
359 \LWR@loadaft{leftidx}
360 \LWR@loadaft{letterspace}
361 \LWR@loadaft{lettrine}
362 \LWR@loadaft{lineno}
363 \LWR@loadaft{lips}
364 \LWR@loadaft{listings}
365 \LWR@loadaft{listliketab}
366 \LWR@loadaft{longtable}
367 \LWR@loadaft{lscape}
368 \LWR@loadaft{ltablex}
369 \LWR@loadaft{ltcaption}
370 \LWR@loadaft{ltxgrid}
371 \LWR@loadaft{ltxtable}
372 \LWR@loadaft{lua-check-hyphen}
373 \LWR@loadaft{lua-visual-debug}
374 \LWR@loadaft{luacolor}
375 \LWR@loadaft{luamplib}
376 \LWR@loadaft{luatodonotes}
377 \LWR@loadaft{lyluatex}
378 \LWR@loadaft{magaz}
379 \LWR@notmemoirloadaft{makeidx}
380 \LWR@loadaft{manyfoot}
```

```
381 \LWR@loadaft{marginfit}
382 \LWR@loadaft{marginfix}
383 \LWR@loadaft{marginnote}
384 \LWR@loadaft{marvosym}
385 \LWR@loadaft{mathcomp}
386 \LWR@loadaft{mathdots}
387 \LWR@loadaft{mathfixs}
388 \LWR@loadaft{mathtools}
389 \LWR@loadaft{mcaption}
390 \LWR@loadaft{mdframed}
391 \LWR@loadaft{media9}
392 \LWR@loadaft{memhfixc}
393 \LWR@loadaft{metalogo}
394 \LWR@loadaft{metalogox}
395 \LWR@loadaft{mhchem}
396 \LWR@loadaft{microtype}
397 \LWR@loadaft{midfloat}
398 \LWR@loadaft{midpage}
399 \LWR@loadaft{minibox}
400 \LWR@loadaft{minitoc}
401 \LWR@loadaft{mismath}
402 % morefloats must be allowed early for print mode
403 \LWR@notmemoirloadaft{moreverb}
404 % morewrites must be loaded before lwarp
405 \LWR@notmemoirloadaft{movie15}
406 \LWR@notmemoirloadaft{mparhack}
407 \LWR@loadaft{multicap}
408 \% \LWR@loadaft{multicol} \% loaded by ltxdoc
409 \LWR@loadaft{multicolrule}
410 \LWR@loadaft{multimedia}
411 \LWR@loadaft{multiobjective}
412 \LWR@loadaft{multirow}
413 \LWR@loadaft{multitoc}
414 \LWR@loadaft{musicography}
415 \LWR@loadaft{nameauth}
416 \LWR@loadaft{nameref}
417 \LWR@loadaft{natbib}
418 \LWR@notmemoirloadaft{nccfancyhdr}
419 \LWR@loadaft{nccfoots}
420 \LWR@loadaft{nccmath}
421 \LWR@notmemoirloadaft{needspace}
422 % newclude must be loaded before lwarp
423 \LWR@loadaft{newtxmath}
424 % newunicodechar must be loaded before lwarp
425 \LWR@notmemoirloadaft{nextpage}
426 \LWR@loadaft{nicefrac}
427 \LWR@loadaft{niceframe}
428 \LWR@loadaft{noitcrl}
429 \LWR@loadaft{nolbreaks}
430 \LWR@loadaft{nomencl}
431 \LWR@loadaft{nonfloat}
432 \LWR@loadaft{nonumonpart}
433 \LWR@loadaft{nopageno}
434 \LWR@loadaft{notes}
435 \LWR@loadaft{notespages}
```

```
436 \LWR@loadaft{nowidow}
437 \LWR@loadaft{ntheorem}
438 \LWR@loadaft{octave}
439 \LWR@loadaft{overpic}
440 \LWR@loadaft{pagegrid}
441 \LWR@notmemoirloadaft{pagenote}
442 \LWR@loadaft{pagesel}
443 \LWR@loadaft{paralist}
444 \LWR@loadaft{parallel}
445 \LWR@loadaft{parcolumns}
446 \LWR@loadaft{parnotes}
447 \LWR@notmemoirloadaft{parskip}
448 \LWR@loadaft{pbox}
449 \LWR@loadaft{pdfcol}
450 \LWR@loadaft{pdfcolfoot}
451 \LWR@loadaft{pdfcolmk}
452 \LWR@loadaft{pdfcolparallel}
453 \LWR@loadaft{pdfcolparcolumns}
454 \LWR@loadaft{pdfcomment}
455 \LWR@loadaft{pdfcrypt}
456 \LWR@loadaft{pdflscape}
457 \LWR@loadaft{pdfmarginpar}
458 \LWR@loadaft{pdfpages}
459 \LWR@loadaft{pdfprivacy}
460 \LWR@loadaft{pdfrender}
461 \LWR@loadaft{pdfsync}
462 \LWR@loadaft{pdftricks}
463 \LWR@loadaft{pdfx}
464 \LWR@loadaft{perpage}
465 \LWR@loadaft{pfnote}
466 \LWR@loadaft{phfqit}
467 \LWR@loadaft{physics}
468 \LWR@loadaft{physunits}
469 \LWR@loadaft{pifont}
470 \LWR@loadaft{placeins}
471 \LWR@loadaft{plarray}
472 \LWR@loadaft{plarydshln}
473 \LWR@loadaft{plextarrray}
474 \LWR@loadaft{plextrydshln}
475 \LWR@loadaft{plcolortbl}
476 \LWR@loadaft{plextdelarray}
477 \LWR@loadaft{prelim2e}
478 \LWR@loadaft{prettyref}
479 \LWR@loadaft{preview}
480 \LWR@loadaft{psfrag}
481 \LWR@loadaft{psfragx}
482 \LWR@loadaft{pst-eps}
483 \LWR@loadaft{pstool}
484 \LWR@loadaft{pstricks}
485 % \LWR@loadaft{pxatbegshi} may be used by morewrites
486 \LWR@loadaft{pxeveryshi}
487 \LWR@loadaft{pxftnright}
488 \LWR@loadaft{pxjahyper}
489 \LWR@loadaft{quotchap}
490 \LWR@loadaft{quoting}
```

```
491 \LWR@loadaft{ragged2e}
492 \LWR@loadaft{realscripts}
493 \LWR@loadaft{refcheck}
494 \LWR@loadaft{register}
495 \LWR@loadaft{relsize}
496 \LWR@loadaft{repeatindex}
497 \LWR@loadaft{resizegather}
498 \LWR@loadaft{returngrid}
499 \LWR@loadaft{rmathbr}
500 \LWR@loadaft{rmpage}
501 \LWR@loadaft{romanbar}
502 \LWR@loadaft{romanbarpagenum}
503 \LWR@loadaft{rotating}
504 \LWR@loadaft{rotfloat}
505 \LWR@loadaft{rviewport}
506 \LWR@loadaft{savetrees}
507 % scalefnt is loaded by babel-french
508 \LWR@loadaft{schemata}
509 \LWR@loadaft{scrextend}
510 \LWR@loadaft{scrhack}
511 \LWR@loadaft{scrlayer}
512 \LWR@loadaft{scrlayer-notecolumn}
513 \LWR@loadaft{scrlayer-scrpage}
514 \LWR@loadaft{scrpage2}
515 \LWR@loadaft{section}
516 \LWR@loadaft{sectionbreak}
517 \LWR@loadaft{sectsty}
518 \LWR@loadaft{semantic-markup}
519 \LWR@notmemoirloadaft{setspace}
520 \LWR@loadaft{shadow}
521 \LWR@loadaft{shapepar}
522 \LWR@notmemoirloadaft{showidx}
523 \LWR@loadaft{showkeys}
524 \LWR@loadaft{showtags}
525 \LWR@loadaft{sidecap}
526 \LWR@loadaft{sidenotes}
527 \LWR@loadaft{SIunits}
528 \LWR@loadaft{siunitx}
529 \LWR@loadaft{slantsc}
530 \LWR@loadaft{slashed}
531 \LWR@loadaft{soul}
532 \LWR@loadaft{soulpos}
533 \LWR@loadaft{soulutf8}
534 \LWR@loadaft{splitidx}
535 \LWR@loadaft{srccltx}
536 \LWR@loadaft{srctex}
537 \LWR@loadaft{stabular}
538 \LWR@loadaft{stackengine}
539 \LWR@loadaft{stackrel}
540 \LWR@loadaft{statex2}
541 \LWR@loadaft{statmath}
542 \LWR@loadaft{steinmetz}
543 \LWR@notltjloadaft{stfloats}
544 \LWR@loadaft{struktex}
545 \LWR@loadaft{subcaption}
```

```
546 \LWR@loadaftersubfig}
547 \LWR@loadaftersubfigure}
548 \LWR@loadaftersubsubscripts}
549 \LWR@loadaftersupertabular}
550 \LWR@loadaftersvg}
551 \LWR@loadaftersyntonly}
552 \LWR@loadaftert1inc}
553 \LWR@loadaftertabfigures}
554 \LWR@loadaftertabs}
555 \LWR@loadaftertablefootnote}
556 \LWR@notmemoirloadaftertabularx}
557 \LWR@loadaftertabulary}
558 \LWR@loadaftertascmac}
559 \LWR@loadaftertagpdf}
560 \LWR@loadaftertextarea}
561 % \LWR@loadaftertextcomp% maybe before lwarp with font packages
562 \LWR@loadaftertextfit}
563 \LWR@loadaftertextpos}
564 \LWR@loadaftertextorem}
565 \LWR@loadaftertextnbsp}
566 \LWR@loadaftertexthreadcol}
567 \LWR@loadaftertextrepartable}
568 \LWR@loadaftertextrepartablex}
569 \LWR@loadaftertextthumb}
570 \LWR@loadaftertextthumbs}
571 \LWR@loadaftertexttikz}
572 \LWR@loadaftertexttitleps}
573 \LWR@loadaftertexttitlesec}
574 \LWR@loadaftertexttitletoc}
575 \LWR@notmemoirloadaftertitling}
576 % \LWR@loadaftertocbasic% preloaded by koma-script classes
577 \LWR@notmemoirloadaftertocbibind}
578 \LWR@loadaftertocdata}
579 \LWR@loadaftertoccenter}
580 \LWR@notmemoirloadaftertocloft}
581 \LWR@loadaftertocstyle}
582 \LWR@loadaftertodo}
583 \LWR@loadaftertodonotes}
584 \LWR@loadaftertopcapt}
585 \LWR@loadaftertextram}
586 \LWR@loadaftertexttransparent}
587 \LWR@loadaftertexttrimclip}
588 \LWR@loadaftertexttrivfloat}
589 \LWR@loadaftertexttruncate}
590 \LWR@loadaftertextturnthepage}
591 \LWR@loadaftertexttwoup}

592 % \LWR@loadaftertypearea% preloaded by koma-script classes
593 \LWR@loadaftertexttypicons}
594 % \LWR@loadaftertextulem% preloaded by ctexart and related classes
595 \LWR@loadaftertextumoline}
596 \LWR@loadaftertextunderscore}
597 \LWR@loadaftertextunicode-math}
598 \LWR@loadaftertextunits}
599 \LWR@loadaftertextunitsdef}
```

```

600 \LWR@loadaft{upref}
601 \LWR@loadaft{url}
602 \LWR@loadaft{uspace}
603 \LWR@loadaft{varioref}% no lwarp package provided
604 \LWR@notmemoirloadaft{verse}
605 \LWR@loadaft{personotes}
606 \LWR@loadaft{vertbars}
607 \LWR@loadaft{vmargin}
608 \LWR@loadaft{vowel}
609 \LWR@Loadaft{vpe}
610 \LWR@loadaft{vwcol}
611 \LWR@loadaft{wallpaper}
612 \LWR@loadaft{watermark}
613 \LWR@loadaft{widetable}
614 \LWR@loadaft{widows-and-orphans}
615 \LWR@loadaft{witharrows}
616 \LWR@loadaft{wrapfig}
617 \LWR@loadaft{xbmks}
618 \LWR@loadaft{xcolor}
619 \LWR@loadaft{xchangebar}
620 \LWR@loadaft{xellipsis}
621 % xetexko-vertical must be loaded before lwarp
622 \LWR@loadaft{xfakebold}
623 \LWR@loadaft{xfrac}
624 \LWR@loadaft{xltabular}
625 \LWR@loadaft{xltxt}
626 \LWR@loadaft{xmpincl}
627 \LWR@loadaft{xpiano}
628 \LWR@loadaft{xpinyin}
629 \LWR@loadaft{xr}
630 \LWR@loadaft{xr-hyper}
631 \LWR@loadaft{xtab}
632 % xunicode must be loaded before lwarp
633 \LWR@loadaft{xurl}
634 \LWR@loadaft{xy}
635 \LWR@loadaft{zwpagelayout}

```

21 MD5 hashing

The MD5 hash is used for `lateximage` filenames for SVG math.

```

636 \newcommand{\LWR@mdfive}[1]{%
637 \PackageError{lwarp}%
638 {No MD5 macro was found}%
639 {Lwarp must find the macros pdfmdfivesum or mdfivesum.}%
640 }

```

The default for `pdflATEX`, `dviLATEX`, `upLATEX`, etc:

```

641 \let\LWR@mdfive\pdfmdfivesum

```

For $\text{Lua}\text{\LaTeX}$:

```
642 \ifLuaTeX
643 \RequirePackage{pdftexcmds}
644 \let\LWR@mdfive\pdf@mdfivesum
645 \fi
```

For $\text{Xe}\text{\LaTeX}$:

```
646 \ifXeTeX
647 \@ifundefined{pdffivesum}{}%
648   {\let\LWR@mdfive\pdfmdfivesum}
649 \@ifundefined{mdfivesum}{}%
650   {\let\LWR@mdfive\mdfivesum}
651 \fi
```

22 pdf \LaTeX T1 and UTF-8 encoding

When using pdf \LaTeX , lwarf requires T1 font encoding, and recommends UTF-8 input encoding.

If some other input encoding is already defined, lwarf will try to use it instead, and hope for the best.

$\text{Xe}\text{\LaTeX}$ and $\text{Lua}\text{\LaTeX}$ are both UTF-8 by nature.

$\backslash\text{LWR@pdfencoding}$ Sets T1, and also utf8 if not already set.

```
652 \newcommand*{\LWR@pdfencoding}{%
653   \RequirePackage[T1]{fontenc}
654
655   \@ifpackageloaded{inputenc}{}{%
656     \@ifpackageloaded{inputenx}{}{%
657       \RequirePackage[utf8]{inputenc}
658     }%
659   }%
660 }%
661 \ifPDFTeX% pdflatex or dvi latex
662   \LWR@pdfencoding
663 \fi
664
665 \ifpTeX
666   \LWR@pdfencoding
667 \fi
```

23 Unicode input characters

If using *pdflatex*, convert a minimal set of Unicode characters. Additional characters may be defined by the user, as needed.

A commonly-used multiply symbol is declared to be \texttt{textrm}.

The first arguments of \newunicodechar below are text ligatures in the source code, even though they are not printed in the following listing.

```

668 \ifpdfTeX
669 \else
670 \RequirePackage{newunicodechar}
671
672 \newunicodechar{x}{\texttimes}
673
674 \ifPDFTeX% pdflatex or dvi latex
675 \newunicodechar{ff}{ff}% Here, the first arguments are ligatures.
676 \newunicodechar{fi}{fi}
677 \newunicodechar{fl}{fl}
678 \newunicodechar{ffi}{ffi}
679 \newunicodechar{ffl}{ffl}
680 \newunicodechar{--}{--}
681 \newunicodechar{--}{--}
682 \fi
683
684 \fi

```

24 Avoid a bitmapped font

If DVI or PDF LATEX, and if the default Computer Modern is the selected font family, ensure that cm-super or lmodern is used to provide a vector font.

```

685 \ifxetexorluatex
686 \else
687   \ifdefstring{\f@family}{cmr}{
688     \IfFileExists{type1ec.sty}{% found in cm-super
689     {}
690     {% cm-super not installed
691       \IfFileExists{lmodern.sty}{
692         \PackageInfo{lwarp}{cm-super not installed, loading lmodern}
693         \RequirePackage{lmodern}
694       }
695       \PackageError{lwarp}{%
696         Lwarp requires a vector font.\MessageBreak
697         Install and load cm-super, lmodern, or another\MessageBreak
698         Type-1 vector font before loading lwarp%
699       }
700     }
701     {% 
702       Install cm-super or lmodern.\MessageBreak
703       If lmodern, load it before lwarp:\MessageBreak
704         \space\space\protect\usepackage{lmodern}\MessageBreak
705         \space\space\protect\usepackage{lwarp}%
706     }
707   }
708 
```

```

706          }
707      }
708  }% cm-super not installed
709 }{ }% f@family
710 \fi

```

25 Upright quotes

In PDFTEX, preserve upright quotes in verbatim text. upquote also loads textcomp.

```

711 \ifPDFTeX
712 \RequirePackage{upquote}
713 \fi
714
715 \ifpTeX
716   \RequirePackage{upquote}
717 \fi

```

26 Miscellaneous tools

26.1 Lengths and units

\LWR@providelength {⟨\lengthname⟩} Provides the length if it isn't defined yet.

Used to provide source compatibility for lengths which will be ignored, but might or might not be already provided by other packages.

```

718 \newcommand*\LWR@providelength[1]{%
719   \ifdefined\lengthname{%
720     \newlength{\lengthname}{\lengthname}%
721   }%
722 }

```

\LWR@convertto {⟨dest unit⟩} {⟨length⟩}

Prints a length in the given units, without printing the unit itself.

```
721 \newcommand*{\LWR@convertto}[2]{%
722   \strip@pt\dimexpr #1*65536/\number\dimexpr #2}%

```

\LWR@printpercentlength {⟨smaller⟩} {⟨larger⟩}

Prints a percent ratio of the two lengths.

```

722 \newcommand*{\LWR@printpercentlength}[2]{%
723   \setcounter{\LWR@tempcountone}{100*\ratio{#1}{#2}}%
724   \arabic{\LWR@tempcountone}%
725 }

```

26.2 Counters

```
\defaddtocounter {⟨name⟩} {⟨value⟩}
```

Locally add to a counter.

```
726 \providecommand*\defaddtocounter}[2]{%
727   \defcounter{#1}{\value{#1}+#2}%
728 }
```

26.3 Patching

```
\LWR@patcherror {⟨packagename⟩} {⟨macroname⟩}
```

Prints an error if could not patch a macro.

```
729 \newcommand*\LWR@patcherror}[2]{%
730 \PackageError{l warp}%
731 {Unable to patch package #1, macro #2}%
732 {Please contact the author of the L warp package.}%
733 }
```

26.4 Chinese text isolation

```
\LWR@isolate {⟨text⟩}
```

Isolates Chinese characters from the surrounding text. This is required to avoid extra spaces on either side of the Chinese characters, especially when written to a file.

```
734 \newcommand{\LWR@isolate}[1]{#1}%
735 %
736 \@ifpackageloaded{ctexpatch}{%
737   \renewcommand{\LWR@isolate}[1]{\null#1\null}%
738 }{}%
739 %
740 \@ifpackageloaded{xeCJK}{%
741   \renewcommand{\LWR@isolate}[1]{\null#1\null}%
742 }{}}
```

```
\LWR@disablepinyin
```

Disable xpinyin during file, sidetoc, and footnote generation. Set by xpinyin.

```
743 \newcommand*\LWR@disablepinyin{}
```

26.5 Inserting vertical space

```
\LWR@forceemptyline
```

Extra vertical space in the HTML output. Use after \LWR@stopars.

```
744 \newcommand*\LWR@forceemptyline}{%
```

```

745     \LWR@origrule{0pt}{1\baselineskip}%
746     \LWR@orignewline%
747 }
```

26.6 Argument selection

\LWR@firstoffour {⟨first⟩} {⟨second⟩} {⟨third⟩} {⟨fourth⟩}

\LWR@secondoffour {⟨first⟩} {⟨second⟩} {⟨third⟩} {⟨fourth⟩}

\LWR@thirdoffour {⟨first⟩} {⟨second⟩} {⟨third⟩} {⟨fourth⟩}

\LWR@fourthoffour {⟨first⟩} {⟨second⟩} {⟨third⟩} {⟨fourth⟩}

Expands to the nth of the four arguments. Used for extra cross referencing.

```

748 \long\def\LWR@firstoffour#1#2#3#4{#1}
749 \long\def\LWR@secondoffour#1#2#3#4{#2}
750 \long\def\LWR@thirdoffour#1#2#3#4{#3}
751 \long\def\LWR@fourthoffour#1#2#3#4{#4}
```

26.7 Global boxes

\LWR@gsavebox {⟨macroname⟩} {⟨contents⟩}

From <https://tex.stackexchange.com/questions/288702/savebox-forgets-its-content-across-columns-inside-align>

```

752 \DeclareRobustCommand{\LWR@gsavebox}[1]{%
753   \@ifnextchar(%)
754     {\LWR@@gsavepicbox#1}{\@ifnextchar[\{\LWR@@gsavebox#1\}\LWR@gbox#1\}]}
755 \long\def\LWR@gbox#1#2{\global\setbox#1\hbox{%
756   \color@setgroup#2\color@endgroup}}
757 \def\LWR@@gsavebox#1[#2]{%
758   \@ifnextchar[\{\LWR@@igsavebox#1[#2]\}\LWR@@igsavebox#1[#2][c]]}
759 \long\def\LWR@@igsavebox#1[#2][#3]{%
760   \LWR@gbox#1\@imakebox[#2][#3]{#4}}
761 \def\LWR@@gsavepicbox#1(#2,#3){%
762   \@ifnextchar[%]
763     {\LWR@@gsavepicbox#1(#2,#3)\LWR@@gsavepicbox#1(#2,#3)[]}}
764 \long\def\LWR@@gsavepicbox#1(#2,#3)[#4]{%
765   \LWR@gbox#1\@imakepicbox(#2,#3)[#4]{#5}}
```

Env \LWR@glrbox {⟨macroname⟩}

```

766 \def\LWR@glrbox#1{%
767   \edef\reserved@a{%
768     \endgroup}
```

```

769 \global\setbox#1\hbox{%
770   \begingroup\aftergroup}%
771   \def\noexpand@currenvir{@currenvir}%
772   \def\noexpand@currenvline{\on@line}}%
773 \reserved@a
774 \endpfalse
775 \color@setgroup
776 \ignorespaces}
777 \let\LWR@endlrbx\LWR@endlrbx

```

26.8 Converting a macro name to a cs name

\macro{csname} {*macro name with backslash*}

Results in the macro name without the leading backslash.

Ref: <https://tex.stackexchange.com/questions/42318/removing-a-backslash-from-a-character-sequence>

```

778 \newcommand*{\macro{csname}}[1]{%
779   \ifcat\relax\noexpand#1%
780     \expandafter\expandafter\expandafter@gobble\expandafter\string
781   \fi
782   #1%
783 }

```

27 Operating-System portability

Prog Unix	lwarp tries to detect which operating system is being used. UNIX / MAC OS / LINUX is the default (collectively referred to as “UNIX” in the configuration files), and MS-WINDOWS is supported as well.
Prog Mac OS	
Prog Linux	
Prog MS-Windows	If MS-WINDOWS is not correctly detected, use the <code>lwarp</code> option <code>OSWindows</code> .
Prog Windows	
Opt OSWindows	When detected or specified, the operating-system path separator used by <code>lwarp</code> is modified, and the boolean <code>usingOSWindows</code> is set true. This boolean may be tested by the user for later use.

27.1 Literal characters

Literal characters to be used in `PrintLatexCmd` and `HTMLLatexCmd`. These are defined without @ to easily allow their inclusion in the user's document.

The literal % character:

```
784 \let\LWRpercent\@percentchar
```

The literal \$ character:

```
785 \catcode`\$=12
786 \def\LWRdollar{\$}
787 \catcode`\$=3
```

The literal & character:

```
788 \catcode`\&=12
789 \def\LWRamp{\&}
790 \catcode`\&=4
```

The literal \ character. The ampersand is temporarily set to the escape character during the definition of the backslash macro.

```
791 \catcode`\&=0
792 &\catcode`&=12
793 &\def&\LWRbackslash{\`}
794 &\catcode`\&=0
795 \catcode`\&=4
```

The literal { character. The ampersand is temporarily set to the begin group character during the definition of the leftbrace macro.

```
796 \catcode`\&=1
797 \catcode`\{=12
798 \def\LWRleftbrace&{`}
799 \catcode`\{=1
800 \catcode`\&=4
```

The literal } character. The ampersand is temporarily set to the end group character during the definition of the leftbrace macro.

```
801 \catcode`\&=2
802 \catcode`\}=12
803 \def\LWRrightbrace&{`}
804 \catcode`\}=2
805 \catcode`\&=4
```

The literal # character:

```
806 \catcode`\#=12
807 \def\LWRhash{\#}
808 \catcode`\#=6
```

\LWRopquote The operating system's quote mark, UNIX default. For WINDOWS, see \LWR@setOSWindows, below.

```
809 \def\LWRopquote{'}
```

\LWRopseq The operating system's sequential execution command, UNIX default. For WINDOWS, see \LWR@setOSWindows, below.

```
810 \def\LWRopseq{\space\LWRamp\LWRamp\space\space}
```

27.2 Common portability code

`Bool usingOSWindows` Set if the OSWindows option is used, or if WINDOWS is automatically detected.

```
811 \newbool{usingOSWindows}
812 \boolfalse{usingOSWindows}
```

27.3 UNIX, LINUX, and MAC OS

`\OSPathSymbol` Symbol used to separate directories in a path.

```
813 \newcommand*{\OSPathSymbol}{/}
```

27.4 MS-WINDOWS

For MS-WINDOWS:

`\LWR@setOSWindows` Set defaults for the MS-WINDOWS operating system. `lwarp` attempts to auto-detect the operating system, and the OSWindows option may also be used to force MS-WINDOWS compatibility.

```
814 \newcommand*{\LWR@setOSWindows}
815 {
816 \booltrue{usingOSWindows}
817 \renewcommand*{\OSPathSymbol}{\@backslashchar}
818 \def\LWRopquote{"}
819 \def\LWRopseq{\space\LWRamp\space\space}
820 }
```

Test for windows during compile. The user may also specify OSWindows package option in case this test fails.

```
821 \ifwindows
822 \LWR@setOSWindows
823 \fi
```

28 Package options

`Pkg kvoptions` Allows key/value package options.

```
824 \RequirePackage{kvoptions}
825 \SetupKeyvalOptions{family=LWR,prefix=LWR@}
```

`\lwarpsetup` A user interface to set the keys:

```
826 \newcommand{\lwarpsetup}[1]{\setkeys{LWR}{#1}}
```

Bool warpingprint	
Bool warpingHTML	Set to true/false depending on the package option selections for print/HTML/EPUB output and mathsvg/mathjax.
Bool LWR@origmathjax	LWR@origmathjax remembers the original setting to be restored by \displaymathnormal.
	827 \newbool{warpingprint} 828 \newbool{warpingHTML} 829 \newbool{mathjax} 830 \newbool{LWR@origmathjax}
defaults	The default is print output, and SVG math if the user chose HTML output.
	831 \booltrue{warpingprint} % 832 \boolfalse{warpingHTML} % 833 \boolfalse{mathjax} %
Opt warpprint	If the warpprint option is given, boolean warpingprint is true and boolean warpingHTML is false, and may be used for \ifbool tests.
	834 \DeclareVoidOption{warpprint}{% 835 \PackageInfo{lwarp}{Using option 'warpprint'} 836 \booltrue{warpingprint} % 837 \boolfalse{warpingHTML} % 838 }
Opt warpHTML	Anything in the warpHTML environment will be generated for HTML output only.
Opt warpHTML	If the warpHTML option is given, boolean warpingHTML is true and boolean warpingprint is false, and may be used for \ifbool tests.
	839 \DeclareVoidOption{warpHTML}{% 840 \PackageInfo{lwarp}{Using option 'warpHTML'} % 841 \booltrue{warpingHTML} % 842 \boolfalse{warpingprint} % 843 }
Opt mathsvg	Option mathsvg selects SVG math display: If the mathsvg option is given, boolean mathjax is false, and may be used for \ifbool tests.
	844 \DeclareVoidOption{mathsvg}{% 845 \PackageInfo{lwarp}{Using option 'mathsvg'} 846 \boolfalse{mathjax} % 847 \boolfalse{LWR@origmathjax} % 848 }
Opt mathjax	Option mathjax selects MATHJAX math display: If the mathjax option is given, boolean mathjax is true, may be used for \ifbool tests.
	849 \DeclareVoidOption{mathjax}{% 850 \PackageInfo{lwarp}{Using option 'mathjax'}}

```
851 \booltrue{mathjax}%
852 \booltrue{LWR@origmathjax}%
853 }
```

Opt `BaseJobname`
Default: `\jobname`

Option `BaseJobname` sets the `\BaseJobname` for this document. This is the `\jobname` of the printed version, even if currently compiling the `HTML` version. I.e. this is the `\jobname` without `_html` appended. This is used to set `\HomeHTMLFilename` if the user did not provide one.

```
854 \DeclareStringOption[\jobname]{BaseJobname}
```

Opt `ImagesDirectory`
Default: `\jobname-images`

```
855 \DeclareStringOption[\BaseJobname-images]{ImagesDirectory}
```

Opt `ImagesName`
Default: `image-`

```
856 \DeclareStringOption[image-]{ImagesName}
```

Opt `makeindexStyle`
Default: `lwarf.ist`

```
857 \DeclareStringOption[lwarf.ist]{makeindexStyle}
```

Opt `xindyStyle`
Default: `lwarf.xdy`

```
(markup-locref :open "\hyperindexref{" :close "})
```

```
858 \DeclareStringOption[lwarf.xdy]{xindyStyle}
```

Opt `xindyLanguage`
Default: `english`

```
859 \DeclareStringOption[english]{xindyLanguage}
```

Opt `xindyCodepage`
Default: `utf8`

```
860 \DeclareStringOption[utf8]{xindyCodepage}
```

Opt `pdftotextEnc`
Default: `UTF-8`

```
861 \DeclareStringOption[UTF-8]{pdftotextEnc}
```

Opt lwarpmk Tells **lwarp** to generate a local copy of *lwarpmk* called *lwarpmk.lua*. Useful for archiving for future use. This file may be made executable and acts just like *lwarpmk*.

If **lwarpmk** option, creates a local copy of *lwarpmk.lua*:

```
862 \newbool{LWR@creatinglwarpmk}
863 \boolfalse{LWR@creatinglwarpmk}
864
865 \DeclareVoidOption{lwarpmk}{
866 \PackageInfo{lwarp}{Using option 'lwarpmk'}
867 \booltrue{LWR@creatinglwarpmk}
868 }
```

Opt OSWindows Tells **lwarp** to use MS-WINDOWS compatibility. Auto-detection of the operating system is attempted, and this option is only necessary if the auto-detection fails. See the automatically-generated *lwarpmk.conf* file to find out whether the operating system was detected correctly.

```
869 \DeclareVoidOption{OSWindows}{
870 \PackageInfo{lwarp}{Using option 'OSWindows'}
871 \LWR@setOSWindows
872 }
```

Opt HomeHTMLFilename The filename of the homepage. The default is the jobname. This option is stored into *\LWR@HomeHTMLFilename*, and later transferred into *\HomeHTMLFilename* for internal use.

```
873 \DeclareStringOption[]{}{HomeHTMLFilename}
```

Opt HTMLFilename The filename prefix of web pages after the homepage. The default is empty, no prefix. This option is stored into *\LWR@HTMLFilename*, and later transferred into *\HTMLFilename* for internal use.

```
874 \DeclareStringOption[]{}{HTMLFilename}
```

Opt PrintLatexCmd The shell commands to use to compile the print document.

Default: <empty>

```
875 \DeclareStringOption[]{}{PrintLatexCmd}
```

Opt HTMLLatexCmd The shell commands to use to compile the HTML document.

Default: <empty>

```
876 \DeclareStringOption[]{}{HTMLLatexCmd}
```

Opt PrintIndexCmd The shell commands to use to compile the print indexes.

Default: <empty>

```
877 \DeclareStringOption[]{}{PrintIndexCmd}
```

Opt HTMLIndexCmd The shell commands to use to compile the HTML indexes.

Default: <empty>

```
878 \DeclareStringOption[]{}{HTMLIndexCmd}
```

Opt `LatexmkIndexCmd` The shell commands to be used by *latexmk* to compile the print indexes. Unlike `PrintIndexCmd` and `HTMLIndexCmd`, `LatexmkIndexCmd` does not include the filename, which will be provided by *latexmk*.

```
879 \DeclareStringOption[]{\LatexmkIndexCmd}
```

Opt `makeindex` Tells *l warp* to use `makeindex` for index generation. When `l warpmk.conf` and `*.l warpmkconf` are generated, `PrintIndexCmd` and `HTMLIndexCmd` will be set for `makeindex` with a single index file.

```
880 \DeclareBoolOption[false]{makeindex}
```

Opt `xindy` Tells *l warp* to use `xindy` for index generation. When `l warpmk.conf` and `*.l warpmkconf` are generated, `PrintIndexCmd` and `HTMLIndexCmd` will be set for `xindy` with a single index file.

```
881 \DeclareBoolOption[false]{xindy}
```

Opt `GlossaryCmd` The shell command to use to compile the glossary. The print or `HTML` version of the glossary filename will be appended to this command.
Default: `makerglossaries`

```
882 \DeclareStringOption[makerglossaries]{GlossaryCmd}
```

Opt `latexmk` Option `latexmk` tells *l warpmk* to use *latexmk* when compiling documents.

```
883 \DeclareBoolOption[false]{latexmk}
```

Opt `dvips` Option `dvips` tells *l warpmk* to use `dvips` when compiling DVI *latex* documents.

```
884 \DeclareBoolOption[false]{dvips}
```

Opt `dvipdfm` Option `dvipdfm` tells *l warpmk* to use `dvipdfm` when compiling DVI *latex* documents.

```
885 \DeclareBoolOption[false]{dvipdfm}
```

Opt `dvipdfmx` Option `dvipdfmx` tells *l warpmk* to use `dvipdfmx` when compiling DVI *latex* documents.

```
886 \DeclareBoolOption[false]{dvipdfmx}
```

Execute options Execute the package options, with the defaults which have been set just above:

```
887 \ProcessKeyvalOptions*\relax
```

28.1 Additional options support

Assign the `\BaseJobname` if the user hasn't provided one:

```
888 \providecommand*{\BaseJobname}{\LWR@BaseJobname}
```

Defaults unless already over-ridden by the user:

```
889 \ifcseempty{LWR@HomeHTMLFilename}{
890     \newcommand*\{\HomeHTMLFilename\}{\BaseJobname}
891 }{
892     \csedef{HomeHTMLFilename}{\LWR@HomeHTMLFilename}
893 }
894
895 \csedef{HTMLFilename}{\LWR@HTMLFilename}
```

Special handling for underscores in labels and filenames.

\LWR@sanitized The sanitized version of what was given to \LWR@sanitize. Characters are set to their detokenized versions. Required for underscores in labels and filenames.

```
896 \newcommand*\{\LWR@sanitized\}{}
```

\LWR@sanitize {\langle text\rangle}

Sanitizes the text and returns the result in \LWR@sanitized.

```
897 \newcommand*\{\LWR@sanitize\}[1]{%
898 \edef\LWR@sanitized{\#1}%
899 \edef\LWR@sanitized{\detokenize\expandafter{\LWR@sanitized}}%
900 }
```

Sanitize some string options to neutralize underscores.

```
901 \LWR@sanitize{\LWR@BaseJobname}
902 \edef\LWR@BaseJobname{\LWR@sanitized}
903
904 \LWR@sanitize{\LWR@ImagesDirectory}
905 \edef\LWR@ImagesDirectory{\LWR@sanitized}
906
907 \LWR@sanitize{\LWR@ImagesName}
908 \edef\LWR@ImagesName{\LWR@sanitized}
```

\LWR@PrintIndexCmd and \LWR@HTMLIndexCmd are tested to see if they are empty. If so, they are set to a reasonable defaults for a single index using *makeindex*, then possibly set to defaults for *xindy* if the lwarp xindy option was selected.

```
909 \ifdefempty{\LWR@PrintIndexCmd}{
910     \renewcommand{\LWR@PrintIndexCmd}{%
911         makeindex -s \LWR@makeindexStyle \space \jobname.idx%
912     }
913     \ifbool{\LWR@xindy} {
914         \renewcommand{\LWR@PrintIndexCmd}{%
915             xindy
916             -M \LWR@xindyStyle \space
917             -L \LWR@xindyLanguage \space
918             -C \LWR@xindyCodepage \space
919             \jobname.idx%
920     }
```

```

920         }
921     }{}
922 }{}
923
924 \ifdefempty{\LWR@HTMLIndexCmd}{%
925     \renewcommand{\LWR@HTMLIndexCmd}{%
926         makeindex -s \LWR@makeindexStyle \space \jobname_html.idx%
927     }
928     \ifbool{\LWR@xindy}{%
929         \renewcommand{\LWR@HTMLIndexCmd}{%
930             xindy
931             -M \LWR@xindyStyle \space
932             -L \LWR@xindyLanguage \space
933             -C \LWR@xindyCodepage \space
934             \jobname_html.idx%
935         }
936     }{}
937 }{}
938
939 \ifdefempty{\LWR@LatexmkIndexCmd}{%
940     \renewcommand{\LWR@LatexmkIndexCmd}{%
941         makeindex -s \LWR@makeindexStyle%
942     }
943     \ifbool{\LWR@xindy}{%
944         \renewcommand{\LWR@LatexmkIndexCmd}{%
945             xindy
946             -M \LWR@xindyStyle \space
947             -L \LWR@xindyLanguage \space
948             -C \LWR@xindyCodepage%
949         }
950     }{}
951 }{}

```

28.2 Conditional compilation

\warpprintonly {\langle contents \rangle}

Only process the contents if producing printed output.

```
952 \newcommand{\warpprintonly}[1]{\ifbool{warpingprint}{#1}{}{}}
```

\warpHTMLonly {\langle contents \rangle}

Only process the contents if producing HTML output.

```
953 \newcommand{\warpHTMLonly}[1]{\ifbool{warpingHTML}{#1}{}{}}
```

Pkg comment Provides conditional code blocks.

Attempts to use `versions` or `verbatim` fail in some cases, and do not provide much of a speed benefit even when they do work.

```
954 \RequirePackage{comment}
```

Use `comment_print.cut` for print mode, and `comment_html.cut` for HTML mode. This helps *latexmk* to more reliably know whether to recompile.

```
955 \ifbool{warpingHTML}{  
956   \def\DefaultCutFileName{\def\CommentCutFile{comment_html.cut}}  
957 }{}  
958  
959 \ifbool{warpingprint}{  
960   \def\DefaultCutFileName{\def\CommentCutFile{comment_print.cut}}  
961 }{}
```

Env `warpall` Anything in the `warpall` environment will be generated for print or HTML outputs.

```
962 \includecomment{warpall}
```

Env `warpHTML` For HTML output:

```
963 \ifbool{warpingHTML}{  
964   {\includecomment{warpHTML}}  
965   {\excludecomment{warpHTML}}}%
```

Env `warpprint` Anything in the `warpprint` environment will be generated for print output only.

```
966 \ifbool{warpingprint}{  
967   {\includecomment{warpprint}}  
968   {\excludecomment{warpprint}}}
```

Env `warpMathJax` Only if MATHJAX is being used along with HTML.

```
969 \begin{warpprint}  
970 \excludecomment{warpMathJax}  
971 \end{warpprint}  
972  
973 \begin{warpHTML}  
974 \ifbool{mathjax}{  
975   {\includecomment{warpMathJax}}  
976   {\excludecomment{warpMathJax}}}  
977 \end{warpHTML}
```

Env `LWR@creatinglwarpmk` Optionally generate a local copy of *lwarpmk*. Default to no.

```
978 \ifbool{LWR@creatinglwarpmk}{  
979   {\includecomment{LWR@createlwarpmk}}  
980   {\excludecomment{LWR@createlwarpmk}}}
```

29 Required packages

These packages are automatically loaded by l warp when generating HTML output. Some of them are also automatically loaded when generating print output, but some are not.

for HTML output: 981 \begin{warpHTML}

Load fontspec if necessary:

```
982 \ifxetexorluatex
983 \@ifpackageloaded{fontspec}{}{
984     \usepackage[no-math]{fontspec}
985 }
```

The monospaced font is used for HTML tags, so turn off its TeX ligatures and common ligatures:

```
986 \defaultfontfeatures[\rmfamily]{Ligatures={NoCommon,TeX}}
987 \defaultfontfeatures[\sffamily]{Ligatures={NoCommon,TeX}}
988 \defaultfontfeatures[\ttfamily]{Ligatures=NoCommon}
989 \else
```

pdflatex only: Only pre-loaded if *pdflatex* is being used.

Pkg microtype

ligatures Older browsers don't display ligatures. Turn off letter ligatures, keeping LATEX dash and quote ligatures, which may fail on older browses but at least won't corrupt written words.

```
990 \RequirePackage {microtype}
991
992 \microtypesetup{
993     protrusion=false,
994     expansion=false,
995     tracking=false,
996     kerning=false,
997     spacing=false}
998
999 \DisableLigatures[f,q,t,T,Q]{encoding = *,family = *}
1000 \fi
1001 \end{warpHTML}
```

Pkg geometry Tactics to avoid unwanted page breaks and margin overflow:

- Uses a very long and wide page to minimize page breaks and margin overflow.
- Uses a scriptsize font.
- Uses extra space at the margin to avoid HTML tag overflow off the page.

- Forces a new PDF page before some environments.
- Forces line break between major pieces of long tags.

for HTML output: 1002 \begin{warpHTML}

If `geometry` has not yet been loaded, use the preexisting page and text sizes to be preserved for later reuse. These will be replaced by `\AtBeginDocument` with a very large page size to reduce HTML tag overflow off the page.

```
1003 \@ifpackageloaded{geometry}
1004 {}{
1005   \RequirePackage[
1006     reset,
1007     paperwidth=\paperwidth,
1008     paperheight=\paperheight,
1009     textwidth=\textwidth,
1010     textheight=\textheight,
1011     left=\oddsidemargin,
1012     top=\topmargin,
1013     marginparsep=\marginparsep,
1014     marginparwidth=\marginparwidth,
1015   ]{geometry}
1016 }
```

Remember the original definitions for later reuse. If the `geometry` package is loaded by the user, `l warp-geometry` will nullify the user-level originals.

```
1017 \LetLtxMacro{\LWR@origgeometry}{\geometry}
1018 \LetLtxMacro{\LWR@orignewgeometry}{\newgeometry}
1019 \LetLtxMacro{\LWR@origrestoregeometry}{\restoregeometry}
1020 \LetLtxMacro{\LWR@origsavegeometry}{\savegeometry}
1021 \LetLtxMacro{\LWR@origloadgeometry}{\loadgeometry}
```

Bool `geometry` may be loaded by the user before `l warp`, after `l warp`, or not at all. If before `l warp`, it will have already been loaded by now and its page layout has already been saved. If `geometry` is loaded after `l warp`, its layout will be set at that time and the user macros nullified. `\AtEndPreamble` this layout will be saved. If the user never loads `geometry`, `l warp-geometry` will be loaded `\AtBeginDocument`, but it should not change the page layout set here. This is controlled by the boolean `LWR@allowanothergometry`. Geometry may be adjusted throughout the preamble until `\AtEndPreamble`, when this boolean is set false.

```
1022 \newbool{LWR@allowanothergometry}
1023 \booltrue{LWR@allowanothergometry}
```

Use `\AtEndPreamble` to avoid class and option conflict by changing settings after other packages load, instead of using `geometry` package options:

```
1024 \AtEndPreamble{
```

Whatever geometry choices the user has made in the preamble, either before or after `l warp` was loaded, are now saved for possible temporary reuse, such as by `lyluatex`.

See the `lwarp-geometry` section for what happens if `geometry` is loaded after `lwarp`.

```
1025 \LWR@origsavegeometry{\LWR@usergeometry}
```

The user's paper size is saved for later reuse, such as by the `pdfpages` or `parallel` packages.

```
1026 \newlength{\LWR@userspaperwidth}
1027 \setlength{\LWR@userspaperwidth}{\paperwidth}
1028
1029 \newlength{\LWR@userspaperheight}
1030 \setlength{\LWR@userspaperheight}{\paperheight}
1031
1032 \newlength{\LWR@usersmarginparwidth}
1033 \setlength{\LWR@usersmarginparwidth}{\marginparwidth}
1034
1035 \newlength{\LWR@userstextwidth}
1036 \setlength{\LWR@userstextwidth}{\textwidth}
1037
1038 \newlength{\LWR@userstextheight}
1039 \setlength{\LWR@userstextheight}{\textheight}
```

For `lwarp`, use a very large page and margins to help avoid letting HTML tags run off the edge:

```
1040 \LWR@origgeometry{
1041     reset,
1042     paperheight=190in,
1043     paperwidth=20in,
1044     left=2in,
1045     right=6in,
1046     top=1in,
1047     bottom=1in,
1048     heightrounded,%
```

The `lwarp` page geometry is saved for future restore:

```
1050 \LWR@origsavegeometry{\LWR@lwarpgeometry}
```

No longer adjust the page layout when `lwarp-geometry` is loaded `\AtBeginDocument`:

```
1051 \boolefalse{\LWR@allowanothergeometry}%
```

`ltjsbook` and other classes can print vertically, and require these to be reset by `lwarp`:

```
1052 \setlength{\textheight}{0.8\paperheight}
1053 \setlength{\textwidth}{0.7\paperwidth}
1054
1055 \@twosidefalse
1056 @mparswitchfalse
1057 }% \AtEndPreamble
1058
1059 \end{warpHTML}
```

for HTML & PRINT: 1060 \begin{warpall}

Pkg xparse

LATEX3 command argument parsing

1061 \RequirePackage{xparse}

Pkg calc

1062 \RequirePackage{calc}

1063 \end{warpall}

for HTML output: 1064 \begin{warpHTML}

Pkg expl3

LATEX3 programming

1065 \RequirePackage{expl3}

Pkg gettitlestring

Used to emulate \nameref.

1066 \RequirePackage{gettitlestring}

Pkg everyhook

everyhook is used to patch paragraph handling.

1067 @ifundefined{bxjs@everypar}{}{\let\everypar\bxjs@everypar}

1068

1069 \RequirePackage{everyhook}

1070 \end{warpHTML}

for HTML & PRINT: 1071 \begin{warpall}

Pkg filecontents

Used to write helper files while creating the print version.

Recent versions of LATEX (as of Fall 2019) now include the functionality of the filecontents package, but with a new optional argument used to specify whether to force the overwriting of an existing file. If an older LATEX kernel is used, the original filecontents package is used, but it is patched to throw away the new optional argument.

1072 @ifundefined{filec@ntents@opt}{% older kernel, discard optional args

1073

1074 \RequirePackage{filecontents}

1075

```

1076     \LetLtxMacro{\LWR@orig@filec@ntents}{\filec@ntents}
1077
1078     \@ifpackagelater{filecontents}{2011/10/08}
1079     {

```

For a newer version of the `filecontents` package, simply discard the optional argument.

```

1080         \renewcommand*{\filec@ntents}[1][]{{\LWR@orig@filec@ntents}}
1081     }
1082     {% patch older package for morewrites

```

For an older version of `filecontents`, discard the optional argument, and also patch to work with `morewrites`, per <https://tex.stackexchange.com/questions/312830/does-morewrites-not-support-filecontents-and-can-i-write-body-of-environment-us/312910>

```

1083     \newwrite\fcwrite
1084     \renewcommand*{\filec@ntents}[1][]{{%
1085         \def\chardef##1\write{\let\reserved@c\fcwrite}%
1086         \LWR@orig@filec@ntents%
1087     }
1088 }
1089 }% older kernel
1090 {%
1091 }% newer kernel

```

For a newer kernel with a `filecontents` environment which accepts the optional `overwrite` argument, use the environment as-is.

```
1092 }% newer kernel, filecontents env accepts optional args, do not load package
```

```
1093 \end{warpall}
```

for HTML output: 1094 `\begin{warpHTML}`

```
Pkg xifthen
```

```
1095 \RequirePackage{xifthen}
```

```
Pkg verbatim
```

```
1096 \RequirePackage{verbatim}
```

```
Pkg refcount
```

Provides `\setcounterref`, `\setcounterpageref`, etc.

```
1097 \RequirePackage{refcount}
```

```
Pkg newfloat
```

```
1098 \RequirePackage{newfloat}
```

```
1099 \end{warpHTML}
```

for HTML & PRINT: 1100 \begin{warpall}

Pkg xstring There was a short-term bug in xstring regarding \IfInteger which affected l warp's
⚠️ index generation. The updated version is requested here.

```
1101 \RequirePackage{xstring}[2019/02/01]
```

Pkg environ Used to encapsulate math environments for re-use in HTML <alt> text.

```
1102 \RequirePackage{environ}
```

```
1103 \end{warpall}
```

for HTML output: 1104 \begin{warpHTML}

Pkg printlen Used to convert lengths for image width/height options.

```
1105 \RequirePackage{printlen}
```

\LWR@printlength {<length>}

Prints a length using a locally-controlled unit and space. Rounding is used unless the length is small.

```
1106 \newrobustcmd*\LWR@printlength[1]{%
1107   \begingroup%
1108   \uselengthunit{PT}%
1109   \renewcommand*\unitspace{}%
1110   \ifdimless{#1}{10pt}{%
1111     \printlength{#1}%
1112   }{%
1113     \rndprintlength{#1}%
1114   }%
1115   \endgroup%
1116 }
```

```
1117 \end{warpHTML}
```

for PRINT output: 1118 \begin{warpprint}

Pkg varwidth Used for print-mode lateximage.

```
1119 \RequirePackage{varwidth}
```

```
1120 \end{warpprint}
```

30 Loading packages

for HTML & PRINT: 1121 \begin{warpall}

Remember the original \RequirePackage:

```
1122 \LetLtxMacro\LWR@origRequirePackage\RequirePackage  
1123 \LetLtxMacro\LWR@origRequirePackageWithOptions\RequirePackageWithOptions
```

`\LWR@requirepackagenames` Stores the list of required package names.

```
1124 \newcommand*{\LWR@requirepackagenames}{}%
```

`\LWR@parsedrequirepackagenames` Stores the parsed list of required package names after spaces are removed and `lwarpt` is prepended.

1125 \newcommand*{\LWR@parsedrequirepackagenames}{}%

`\LWR@nullifycomment` Remove the preexisting comment environment. Certain packages define it for their own use.

```
1126 \newcommand*{\LWR@nullifycomment}{%
1127     \PackageInfo{lwarp}{%
1128         Nullifying the comment environment before loading \LWR@strresulttwo,}%
1129     \let\comment\relax%
1130     \let\endcomment\relax%
1131 }
```

\LWR@findword [⟨1: separator⟩] {⟨2: list⟩} {⟨3: index⟩} [⟨4: destination⟩]

Note that argument 4 is passed directly to \StrBetween.

```
1132 \newcommand*\LWR@findword[3][,]{%
1133     \StrBetween[#3,\numexpr#3+1]{#1#2#1}{#1}{#1}%
1134 }
```

\LWR@checkloadfilename {*filename*} Checks if this filename should be loaded after \warp, or never at all.

The following should never be loaded:

```
1135 \newcommand*{\LWR@checkloadfilename}[1]{%
1136   \LWR@checkloadnever{#1}{ae}{cm-super, lmodern}%
1137   \LWR@checkloadnever{#1}{aecc}{cm-super, lmodern}%
1138   \LWR@checkloadnever{#1}{ae compl}{cm-super, lmodern}%
1139   \LWR@checkloadnever{#1}{alg}{algorithm2e, algorithmmicx}%
1140   \LWR@checkloadnever{#1}{algorithmmic}{algorithm2e, algorithmmicx}%
1141   \LWR@checkloadnever{#1}{bitfield}{bytefield}%
1142   \LWR@checkloadnever{#1}{boxedminipage}{boxedminipage2e}%
1143   \LWR@checkloadnever{#1}{caption2}{caption}%
1144   \LWR@checkloadnever{#1}{ccaption}{caption}%
1145 }%
```

```

1145 \LWR@checkloadnever{#1}{colortab}{colortbl}
1146 \LWR@checkloadnever{#1}{doublespace}{setspace}
1147 \LWR@checkloadnever{#1}{epsf}{graphicx}
1148 \LWR@checkloadnever{#1}{fancyheadings}{fancyhdr}
1149 \LWR@checkloadnever{#1}{fncylab}{cleveref}
1150 \LWR@checkloadnever{#1}{formula}{siunitx}
1151 \LWR@checkloadnever{#1}{glossary}{glossaries}
1152 \LWR@checkloadnever{#1}{hyper}{hyperref}
1153 \LWR@checkloadnever{#1}{newthm}{ntheorem}
1154 \LWR@checkloadnever{#1}{pdfcprot}{microtype}
1155 \LWR@checkloadnever{#1}{picinpar}{floatflt, wrapfig}
1156 \LWR@checkloadnever{#1}{picins}{floatflt, wrapfig}
1157 \LWR@checkloadnever{#1}{rplain}{fancyhdr}
1158 \LWR@checkloadnever{#1}{shadethm}{mdframed}
1159 \LWR@checkloadnever{#1}{si}{siunitx}
1160 \LWR@checkloadnever{#1}{sistyle}{siunitx}
1161 \LWR@checkloadnever{#1}{slashbox}{diagbox}
1162 \LWR@checkloadnever{#1}{statex}{statex2}
1163 \LWR@checkloadnever{#1}{t1enc}{fontenc, inputenc, inputenx}
1164 \LWR@checkloadnever{#1}{ucs}{inputenc, inputencx}
1165 \LWR@checkloadnever{#1}{wasysym}{textcomp, amssymb, amsfonts, mnsymbol, fdsymbol}
1166 \LWR@checkloadnever{#1}{bcxjkjatype}{upLaTeX, bxjsarticle, ujarticle, utarticle}
1167 \LWR@checkloadnever{#1}{hangul}{kotex, xetexko, luatexko}

```

The following should only be loaded before l warp:

```

1168 \LWR@checkloadbefore{#1}{ctex}
1169 \LWR@checkloadbefore{#1}{fontspec}
1170 \LWR@checkloadbefore{#1}{inputenc}
1171 \LWR@checkloadbefore{#1}{inputenx}
1172 \LWR@checkloadbefore{#1}{nfssext-cfr}
1173 \LWR@checkloadbefore{#1}{fontaxes}
1174 \LWR@checkloadbefore{#1}{kotex}
1175 \LWR@checkloadbefore{#1}{luatexja}
1176 \LWR@checkloadbefore{#1}{luatexja-fontspec}
1177 \LWR@checkloadbefore{#1}{luatexko}
1178 \LWR@checkloadbefore{#1}{morewrites}
1179 \LWR@checkloadbefore{#1}{newclude}
1180 \LWR@checkloadbefore{#1}{newunicodechar}
1181 \LWR@checkloadbefore{#1}{plext}
1182 \LWR@checkloadbefore{#1}{xeCJK}
1183 \LWR@checkloadbefore{#1}{xetexko}
1184 \LWR@checkloadbefore{#1}{zxjatype}
1185 }

```

\LWR@lookforpackagename {<index>}

If HTML, and if this is an l warp-supported package name, re-direct it to the l warp version by renaming it l warp- followed by the original name.

Looks index deep into the list of package names, \LWR@requirepackagenames, and builds \LWR@parsedrequirepackagenames which is the modified list of names.

```

1186 \newcommand*{\LWR@Lookforpackagename}[1]{%

```

Find the `index`'th package name from the list:

```
1187 \LWR@findword{\LWR@requirepackagenames}{#1}[\LWR@strresult]%
```

Remove blanks. The original name with blanks is in `LWR@strresult` and the final name with no blanks goes into `LWR@strresulttwo`.

```
1188 \StrSubstitute[100]{\LWR@strresult}{ }{}[\LWR@strresulttwo]%
```

See if the package name was found:

```
1189 \IfStrEq{\LWR@strresulttwo}{}%
1190 {}% no filename
1191 {}% yes filename was found
```

Possible adjustments before loading the package. Maybe nullify the `comment` environment if the new package will be redefining it for a new purpose.

```
1192 \ifdefstring{\LWR@strresulttwo}{easyReview}{\LWR@nullifycomment}{}%
1193 \ifdefstring{\LWR@strresulttwo}{changes}{\LWR@nullifycomment}{}%
```

If `HTML`, check if the package should be loaded before `lwarp`, or never at all:

```
1194 \ifbool{warpingHTML}{\LWR@checkloadfilename{\LWR@strresulttwo}}{}%
```

If `HTML`, and if found, and if an `lwarp`-equivalent name exists, use `lwarp-*` instead.

```
1195 \ifboolexpr{
1196   bool{warpingHTML} and
1197   test{\IfFileExists{lwarp-\LWR@strresulttwo.sty}}
1198 }%
1199 {% lwarp-* file found
1200   \ifdefvoid{\LWR@parsedrequirepackagenames}{%
1201     \edef\LWR@parsedrequirepackagenames{lwarp-\LWR@strresulttwo}%
1202   }%
1203   \edef\LWR@parsedrequirepackagenames{%
1204     \LWR@parsedrequirepackagenames, lwarp-\LWR@strresulttwo%
1205   }%
1206 }%
1207 }%
1208 {%
```

Otherwise, use the current package name.

```
1209 \ifdefvoid{\LWR@parsedrequirepackagenames}{%
1210   \edef\LWR@parsedrequirepackagenames{\LWR@strresulttwo}%
1211 }%
1212 \edef\LWR@parsedrequirepackagenames{%
1213   \LWR@parsedrequirepackagenames, \LWR@strresulttwo}%
1214 }%
1215 }%
1216 }% no lwarp-* file
1217 {%
1218 }%
```

\RequirePackage [⟨1: options⟩] {⟨2: package names⟩} [⟨3: version⟩]

For each of many package names in a comma-separated list, if an `lwarp` version of a package exists, select it instead of the L^ET_EX version.

1219 \RenewDocumentCommand{\RequirePackage}{o m o}{%

Redirect up to twenty names:¹⁶

```
1220 \renewcommand*{\LWR@requirepackagenames}{#2}%
1221 \renewcommand*{\LWR@parsedrequirepackagenames}{}%
1222 \LWR@Lookforpackagename{1}%
1223 \LWR@Lookforpackagename{2}%
1224 \LWR@Lookforpackagename{3}%
1225 \LWR@Lookforpackagename{4}%
1226 \LWR@Lookforpackagename{5}%
1227 \LWR@Lookforpackagename{6}%
1228 \LWR@Lookforpackagename{7}%
1229 \LWR@Lookforpackagename{8}%
1230 \LWR@Lookforpackagename{9}%
1231 \LWR@Lookforpackagename{10}%
1232 \LWR@Lookforpackagename{11}%
1233 \LWR@Lookforpackagename{12}%
1234 \LWR@Lookforpackagename{13}%
1235 \LWR@Lookforpackagename{14}%
1236 \LWR@Lookforpackagename{15}%
1237 \LWR@Lookforpackagename{16}%
1238 \LWR@Lookforpackagename{17}%
1239 \LWR@Lookforpackagename{18}%
1240 \LWR@Lookforpackagename{19}%
1241 \LWR@Lookforpackagename{20}%

```

\RequirePackage depending on the options and version:

```
1242 \IfValueTF{#1}%
1243 {%
    options given
    \IfValueTF{#3}%
        {%
            \LWR@origRequirePackage[#1]{\LWR@parsedrequirepackagenames}[#3]%
            {\LWR@origRequirePackage[#1]{\LWR@parsedrequirepackagenames}}%
        }%
    }%
1248 {%
    no options given
    \IfValueTF{#3}%
        {%
            \LWR@origRequirePackage{\LWR@parsedrequirepackagenames}[#3]%
            {\LWR@origRequirePackage{\LWR@parsedrequirepackagenames}}%
        }%
    }%
1252 }%
1253 }
1254 \LetLtxMacro\usepackage\RequirePackage
1255 \end{warpall}
```

for HTML output: 1256 \begin{warpHTML}

¹⁶This was originally nine names, but then I came across a package which used twelve...

```
\LWR@ProvidesPackagePass {⟨pkgnname⟩} [⟨version⟩]
```

Uses the original package, including options.

```
1257 \NewDocumentCommand{\LWR@ProvidesPackagePass}{m o}{%
1258     \PackageInfo{lwarp}{%
1259         Using package '#1' and adding lwarp modifications, \MessageBreak
1260         including options, }%
1261     \IfValueTF{#2}{%
1262         {\ProvidesPackage{lwarp-#1}[#2]}%
1263         {\ProvidesPackage{lwarp-#1}}%
1264     \DeclareOption*{%
1265         \PassOptionsToPackage{\CurrentOption}{#1}}%
1266     }%
1267     \ProcessOptions\relax%
```

If using `catoptions`, an error occurs if a package is loaded with an option then loaded again with no options. `lwarp` does this if a package is preloaded then later patched. To avoid an error while using `catoptions`, if a package has already been loaded, it is loaded again with its original options.

```
1268     \@ifpackageloaded{#1}{%
1269         \edef\LWR@tempone{\csuse{opt@#1.sty}}%
1270         \IfValueTF{#2}{%
1271             {%
1272                 \expandafter\LWR@origRequirePackage%
1273                 \expandafter[\LWR@tempone]{#1}[#2]%
1274             }%
1275             {%
1276                 \expandafter\LWR@origRequirePackage%
1277                 \expandafter[\LWR@tempone]{#1}%
1278             }%
1279         }{%
1280             \IfValueTF{#2}{%
1281                 {\LWR@origRequirePackage{#1}[#2]}%
1282                 {\LWR@origRequirePackage{#1}}%
1283             }%
1284         }%
1285     \ProcessOptions\relax%
1286 }
```

In some cases, the following seems to be required to avoid an “unknown option” error, such as when loading `xcolor` with options.

```
1284     \DeclareOption*{}%
1285     \ProcessOptions\relax%
1286 }
```

```
\LWR@ProvidesPackageDropA {⟨name⟩} {⟨date or -NoValue-⟩}
```

Declares the package. Factored for reuse.

```
1287 \newcommand*{\LWR@ProvidesPackageDropA}[2]{%
1288     \PackageInfo{lwarp}{%
1289         Replacing package '#1' with the lwarp version, \MessageBreak
1290         and discarding options, }%
1291     }%
```

```

1292     \IfValueTF{#2}
1293     {\ProvidesPackage{lwarf-#1}[#2]}
1294     {\ProvidesPackage{lwarf-#1}}
1295 }
```

\LWR@ProvidesPackageDropB Nullifies then processes the options.

Seems to be required when options contain curly braces, which were causing “Missing \begin{document}”.

```

1296 \newcommand*{\LWR@ProvidesPackageDropB}{%
1297 % \ProcessOptions\relax% original LaTeX code
1298 \let\ds@\empty%           from the original \ProcessOptions
1299 \edef\@curroptions{}%    lwarf modification to \ProcessOptions
1300 \@process@ptions\relax% from the original \ProcessOptions
1301 }
```

\LWR@ProvidesPackageDrop {⟨pkgname⟩} [⟨version⟩]

Ignores the original package and uses lwarf’s version instead. Drops/discards all options.

```
1302 \NewDocumentCommand{\LWR@ProvidesPackageDrop}{m o}{
```

Declare the package:

```
1303 \LWR@ProvidesPackageDropA{#1}{#2}
```

Ignore all options:

```
1304 \DeclareOption*{}
```

Process the options:

```

1305 \LWR@ProvidesPackageDropB
1306 }
```

```
1307 \end{warpHTML}
```

31 Additional required packages

for HTML output: 1308 \begin{warpHTML}

Pkg caption

```

1309 \LWR@origRequirePackage{caption}
1310 \AtBeginDocument{\RequirePackage{lwarf-caption}}%
```

```
1311 \end{warpHTML}
```

32 File handles

Defines file handles for writes.

for HTML & PRINT: 1312 \begin{warpall}

\LWR@quickfile For quick temporary use only. This is reused in several places.

1313 \newwrite\LWR@quickfile%

1314 \end{warpall}

for HTML output: 1315 \begin{warpHTML}

\LWR@lateximagesfile For <project>-images.txt:

1316 \newwrite\LWR@lateximagesfile

1317 \end{warpHTML}

33 Include a file

During HTML output, \include{<filename>} causes the following to occur:

1. lwarp creates <filename>_html_inc.tex whose contents are:
 $\input{<filename>.tex}$
2. <filename>_html_inc.tex is then \included instead of <filename>.tex.
3. <filename>_html_inc.aux is automatically generated and used by L^AT_EX.

for HTML output: 1318 \begin{warpHTML}

\@include {<filename>} Modified to load _html_inc files.

(Below, \clearpage caused missing text, and was changed to \newpage.)

```

1319 \def\@include#1 {%
1320 \immediate\openout\LWR@quickfile #1_html_inc.tex% lwarp
1321 \immediate\write\LWR@quickfile{\string\input{#1.tex}}% lwarp
1322 \immediate\closeout\LWR@quickfile% lwarp
1323 \LWR@orignewpage% changed from clearpage
1324 \if@filesw
1325   \immediate\write\@mainaux{\string\@input{#1_html_inc.aux}}% changed
1326 \fi
1327 \@tempswattrue
1328 \if@partsw

```

```

1329     \@tempswafalse
1330     \edef\reserved@b{\#1}%
1331     \@for\reserved@a:=\@partlist\do
1332     {\ifx\reserved@a\reserved@b\@tempswatrue\fi}%
1333 \fi
1334 \if@tempswa
1335   \let\@auxout\@partaux
1336   \if@filesw
1337     \immediate\openout\@partaux #1_html_inc.aux % changed
1338     \immediate\write\@partaux{\relax}%
1339 \fi
1340 \@input{\#1_html_inc.tex}% changed
1341 \LWR@orignewpage% changed from clearpage
1342 \@writeckpt{\#1}%
1343 \if@filesw
1344   \immediate\closeout\@partaux
1345 \fi
1346 \else
1347   \deadcycles{z@}
1348   \nameuse{cp@\#1}%
1349 \fi
1350 \let\@auxout\@mainaux%
1351 }

1352 \end{warpHTML}

```

34 Copying a file

for HTML output: 1353 \begin{warpHTML}

\LWR@copyfile {*source filename*} {*destination filename*}

Used to copy the .toc file to .sidetoc to re-print the toc in the sidetoc navigation pane.

```

1354 \newwrite\LWR@copyoutfile % open the file to write to
1355 \newread\LWR@copyinfile % open the file to read from
1356
1357 \newcommand*{\LWR@copyfile}[2]{%
1358 \LWR@traceinfo{\LWR@copyfile: copying #1 to #2}
1359
1360 \immediate\openout\LWR@copyoutfile=#2
1361 \openin\LWR@copyinfile=#1
1362 \begingroup\endlinechar=-1
1363 \makeatletter
1364
1365 \LWR@traceinfo{\LWR@copyfile: about to loop}
1366
1367 \loop\unless\ifeof\LWR@copyinfile
1368   \LWR@traceinfo{\LWR@copyfile: one line}
1369   \read\LWR@copyinfile to\LWR@fileline % Read one line and store it into \LWR@fileline
1370 %   \LWR@fileline\par % print the content into the pdf

```

```

1371 % print the content:
1372   \immediate\write\LWR@copyoutfile{\unexpanded\expandafter{\LWR@fileline}}%
1373 \repeat
1374 \immediate\closeout\LWR@copyoutfile
1375 \LWR@traceinfo{\LWR@copyfile: done}
1376 \endgroup
1377 }

1378 \end{warpHTML}

```

35 Debugging messages

HTML comments To have the HTML output include additional HTML comments, such as which `<div>` is closing, use

```
\booltrue{HTMLDebugComments}
```

debugging information To have debug information written to the log, use

```
\tracinglwarp
```

for HTML & PRINT: 1379 `\begin{warpall}`

Bool LWR@tracinglwarp True if tracing is turned on.

```
1380 \newbool{LWR@tracinglwarp}
```

\tracinglwarp Turns on the debug tracing messages.

```
1381 \newcommand{\tracinglwarp}{\booltrue{LWR@tracinglwarp}}
```

\LWR@traceinfo {<text>} If tracing is turned on, writes the text to the .log file.

```

1382 \newcommand{\LWR@traceinfo}[1]{%
1383 \ifbool{LWR@tracinglwarp}{%
1384 {%
1385   \typeout{*** lwarp: #1}%
1386 }%
1387 {%
1388 }

```

Bool HTMLDebugComments Add comments in HTML about closing `<div>`s, sections, etc.

Default: false

```

1389 \newbool{HTMLDebugComments}
1390 \boolfalse{HTMLDebugComments}

```

If `\tracinglwarp`, show where preamble hooks occur:

```
1391 \AfterEndPreamble{
```

```

1392 \LWR@traceinfo{AfterEndPreamble}
1393 }
1394
1395 \AtBeginDocument{
1396 \LWR@traceinfo{AtBeginDocument}
1397 }

1398 \end{warpall}
```

36 Defining print and HTML versions of macros and environments

The following refers to defining objects inside `l warp`, and is not for the user's document.

Many macros and environments must be provided as both print and HTML versions.

While generating the print version of a document, the original macros as defined by L^AT_EX and its packages are used as-is.

While generating the HTML version of a document, the original macro or environment is redefined to call a new HTML version or a copy of the original print version. The new HTML versions of macros and environments are used most of the time. Copies of the print versions are used inside a `lateximage` environment, which draws and remembers an image of the printed output, and also several other places. The copies of the print versions may also be used by the HTML versions, such as when the HTML version merely encloses the print version inside HTML tags.

The general structure for providing print and HTML versions of a macro or environment is as follows:

For a preexisting macro, not defined with `xparse`: An HTML version is provided with a special name, inside a `warpHTML` environment, then `\LWR@formatted` is used to redefine and patch various macros:

```

\begin{warpHTML}
\newcommand{\LWR@HTML@name}{...}% may also use xparse

\LWR@formatted{name}
\end{warpHTML}
```

`\LWR@formatted{name}` copies the original print version, then redefines `\name` to use either the print or HTML version depending on which mode `l warp` is using. `xparse` may be used to define the new HTML version, even if the original did not use `xparse`. `expl3` syntax may be used as well.

For a preexisting environment, not defined with `xparse`: The process is similar. Note the use of `\LWR@formattedenv` instead of `\LWR@formatted`.

```
\begin{warpHTML}
\newenvironment{\LWR@HTML@name}{...}% may also use xparse

\LWR@formattedenv{name}
\end{warpHTML}
```

If the original used xparse: A copy must be made using a new name:

```
\begin{warpHTML}
\NewDocumentCommand{\LWR@print@name}{...}{...}% copy the original

\NewDocumentCommand{\LWR@HTML@name}{...}{...}% or use \newcommand

\LWR@formatted{name}
\end{warpHTML}
```

Similar for an environment, using `\LWR@formattedenv`. (`\LWR@formatted` and `\LWR@formattedenv` use `\LetLtxMacro` to copy the original print definition, which may not work with macros and environments created by `xparse`, so the print version must be manually recreated in the `lwarp` source.)

For a new macro or environment, not using xparse for the print version:

```
\begin{warpall}
\newcommand{\name}{...}% NOT xparse!
\end{warpall}

\begin{warpHTML}
\newcommand{\LWR@HTML@name}{...}% may use xparse for HTML

\LWR@formatted{name}
\end{warpHTML}
```

Similar for an environment. The plain `\name` or environment `name` is used for the printed version, and is placed inside `warpall`. `xparse` may be used for the `\LWR@HTML@<name>` version. `expl3` syntax may be used for the print and `HTML` versions.

For a new macro or environment, using xparse: It is possible to use `xparse` for an entirely new macro or environment by defining the `\LWR@print@<name>` version with `xparse`, along with `\name` defined without `xparse` to refer directly to the `\LWR@print` version:

```
\begin{warpall}
\NewDocumentCommand{\LWR@print@name}{...}{...}% -or-
\NewDocumentEnvironment{\LWR@print@name}{...}{...}{...}

% Simply a call to \LWR@print@name:
\newcommand{\name}{\LWR@print@name}% -or-
```

```
\newenvironment{name}{\LWR@print@name}{\endLWR@print@name}
\end{warpall}

\begin{warpHTML}
\NewDocumentCommand{\LWR@HTML@name}{...} {...}%
\NewDocumentEnvironment{\LWR@HTML@name}{...} {...} %

\LWR@formatted{name}%
\LWR@formattedenv{name}%
\end{warpHTML}
```

In general, `\LWR@formatted` or `\LWR@formattedenv` are placed inside a `warpHTML` environment, and while producing an HTML document they do the following:

- Macros are modified:
 1. The pre-existing print version `\name` is saved as `\LWR@print@<name>`, unless `\LWR@print@<name>` is already defined.
 2. The original `\name` is redefined to call either the print or HTML version depending on which format is in use at the moment, as set by `\LWR@formatting`, which is defined as either “print” or “HTML”.
- When `l warp` is producing a print document, the original definitions are used, as well as any new definitions defined in `warpall` above.
- When `l warp` is generating HTML output, `\LWR@formatting` is set to “HTML”, and `\name` is directed to `\LWR@HTML@<name>`.
- When `l warp` is generating HTML output but enters a `lateximage` environment, or for some other reason needs to draw images using the original print definitions, `\LWR@formatting` is changed to “print” and `\name` is then redirected to `\LWR@print@<name>`, which was the original `\name`.

Since arguments are not handled by the new `\name`, any star and other arguments are processed by the print or HTML version.

Expandable versions are also provided as well. These usually are necessary for anything which could appear inside a `tabular`, without which a “Misplaced `\omit`” error may occur.

`\LWR@expandableformatted`
`\LWR@expandableformattedenv`

(Older versions of `l warp` used `\LetLtxMacro` for everything, but this could fail when using macros defined by `xparse`. This older system is still in use for many definitions.)

for HTML output: 1399 `\begin{warpHTML}`

`\LWR@formatting` Remembers if selected print/HTML formatting.

Used while `\LWR@restoreorigformatting`, such as in an `lateximage`. May be set to either “print” or “HTML”.

```
1400 \newcommand*{\LWR@formatting}{HTML}
```

\LWR@formatted {*macroname*} No backslash in the macro name.

If not yet defined, defines \LWR@print@<name> as the original print-mode \<name>. Also redefines \<name> to use \LWR@<format>@<name>, where <format> is set by \LWR@formatting, and is print or HTML.

```
1401 \newcommand*{\LWR@formatted}[1]{%
1402     \ifcsundef{\LWR@print@#1}{%
1403         \expandafter\LetLtxMacro\csname \LWR@print@#1\expandafter\endcsname%
1404             \csname#1\endcsname%
1405     }{%
1406     \ifcsundef{#1}{%
1407         \expandafter\newrobustcmd\csname #1\endcsname{%
1408             \@nameuse{\LWR@\LWR@formatting @#1}%
1409         }%
1410     }{%
1411         \expandafter\renewrobustcmd\csname #1\endcsname{%
1412             \@nameuse{\LWR@\LWR@formatting @#1}%
1413         }%
1414     }%
1415 }
```

\LWR@expandableformatted {*macroname*} No backslash in the macro name.

An expandable version of \LWR@formatted.

```
1416 \newcommand*{\LWR@expandableformatted}[1]{%
1417     \ifcsundef{\LWR@print@#1}{%
1418         \expandafter\LetLtxMacro\csname \LWR@print@#1\expandafter\endcsname%
1419             \csname#1\endcsname%
1420     }{%
1421     \ifcsundef{#1}{%
1422         \expandafter\newcommand\csname #1\endcsname{%
1423             \@nameuse{\LWR@\LWR@formatting @#1}%
1424         }%
1425     }{%
1426         \expandafter\renewcommand\csname #1\endcsname{%
1427             \@nameuse{\LWR@\LWR@formatting @#1}%
1428         }%
1429     }%
1430 }
```

\LWR@formattedenv {*environmentname*}

If not yet defined, defines the environment \LWR@print@<name> as the original print-mode <name>. Also redefines the environment <name> to use environment \LWR@<format>@<name>, where <format> is set by \LWR@formatting, and is print or HTML.

```
1431 \newcommand*{\LWR@formattedenv}[1]{%
1432     \ifcsundef{\LWR@print@#1}{%
1433         \expandafter\LetLtxMacro\csname \LWR@print@#1\expandafter\endcsname%
```

```

1434           \csname#1\endcsname%
1435           \csletcs{endLWR@print@#1}{end#1}%
1436   }{%
1437   \DeclareDocumentEnvironment{#1}{}{%
1438   {%
1439       \@nameuse{LWR@LWR@formatting @#1}%
1440   }%
1441   {%
1442       \@nameuse{endLWR@LWR@formatting @#1}%
1443   }%
1444 }

```

\LWR@expandableformatedenv {*environmentname*}

An expandable version of LWR@formatedenv.

```

1445 \newcommand*{\LWR@expandableformatedenv}[1]{%
1446     \ifcsundef{LWR@print@#1}{%
1447         \expandafter\LetLtxMacro\csname LWR@print@#1\expandafter\endcsname%
1448             \csname#1\endcsname%
1449             \csletcs{endLWR@print@#1}{end#1}%
1450     }{%
1451     \DeclareExpandableDocumentEnvironment{#1}{}{%
1452     {%
1453         \@nameuse{LWR@LWR@formatting @#1}%
1454     }%
1455     {%
1456         \@nameuse{endLWR@LWR@formatting @#1}%
1457     }%
1458 }

```

1459 \end{warpHTML}

37 HTML-conversion output modifications

These booleans modify the HTML output in various ways to improve conversion to EPUB or word processor imports.

for HTML & PRINT: 1460 \begin{warpall}

37.1 User-level controls

Bool FormatEPUB Changes HTML output for easy EPUB conversion via an external program. Removes per-file headers, footers, and nav. Adds footnotes per chapter/section.
 Default: false

```

1461 \newbool{FormatEPUB}
1462 \boolfalse{FormatEPUB}

```

Bool FormatWP Changes HTML output for easier conversion by a word processor. Removes headers
 Default: false

and nav, prints footnotes per section, and also forces single-file output and turns off HTML debug comments.

```
1463 \newbool{FormatWP}
1464 \boolfalse{FormatWP}
```

Bool WPMarkFloats Adds

Default: false

```
==== begin table ====
...
==== end ====
or
==== begin figure ====
...
==== end ====

```

around floats while formatting for word processors. This helps identify boundaries of floats to be manually converted to word-processor frames and captions.¹⁷

```
1465 \newbool{WPMarkFloats}
1466 \boolfalse{WPMarkFloats}
```

Bool WPMarkMinipages Adds

Default: false

```
==== begin minipage ====
...
==== end minipage ====

```

around minipages while formatting for word processors. This helps identify boundaries of minipages to be manually converted to word-processor frames.

```
1467 \newbool{WPMarkMinipages}
1468 \boolfalse{WPMarkMinipages}
```

Bool WPMarkTOC While formatting for word processors, adds

Default: true

```
==== table of contents ====

```

where the Table of Contents would have been. This helps identify where to insert the actual TOC.

If set false, the actual toc is printed instead.

```
1469 \newbool{WPMarkTOC}
1470 \booltrue{WPMarkTOC}
```

Bool WPMarkLOFT While formatting for word processors, adds

Default: false

```
==== list of figures ====
and/or
==== list of tables ====

```

¹⁷Perhaps some day word processors will have HTML import options for identifying <figure> and caption tags for figures and tables.

where each of these lists would have been. This helps identify where to insert the actual lists.

If set false, the actual lists are printed instead.

```
1471 \newbool{WPMarkLOFT}
1472 \boolfalse{WPMarkLOFT}
```

Bool WPMarkMath While formatting for word processors, prints math as L^AT_EX code instead of creating SVG images or MATHJAX. This is useful for cut/paste into the *LibreOffice Writer TeXMaths* extension.

```
1473 \newbool{WPMarkMath}
1474 \boolfalse{WPMarkMath}
```

Bool WPTitleHeading While formatting for word processors, true sets the document title to <h1>, which is expected for HTML documents, but also causes the lower-level section headings to start at **Heading 2** when imported into LIBREOFFICE. Set to false to cause the title to be plain text, and the section headings to begin at **Heading 1**.

See table 8 on page 173.

```
1475 \newbool{WPTitleHeading}
1476 \boolfalse{WPTitleHeading}
```

```
1477 \end{warpall}
```

37.2 Heading adjustments

If formatting the HTML for a word processor, adjust heading levels.

If WPTitleHeading is true, adjust so that part is **Heading 1**.

If WPTitleHeading is false, use <h1> for the title, and set part to **Heading 2**.

for HTML output: 1478 \begin{warpHTML}

```
1479 \AtBeginDocument{
1480 \ifbool{FormatWP} {
1481 \@ifundefined{chapter} {
1482 \ifbool{WPTitleHeading}{% part and section starting at h2
1483 \renewcommand*\{\LWR@tagtitle\}{h1}
1484 \renewcommand*\{\LWR@tagtitleend\}{/h1}
1485 \renewcommand*\{\LWR@tagpart\}{h2}
1486 \renewcommand*\{\LWR@tagpartend\}{/h2}
1487 \renewcommand*\{\LWR@tagsection\}{h3}
1488 \renewcommand*\{\LWR@tagsectionend\}{/h3}
1489 \renewcommand*\{\LWR@tagsubsection\}{h4}
1490 \renewcommand*\{\LWR@tagsubsectionend\}{/h4}
1491 \renewcommand*\{\LWR@tagsubsubsection\}{h5}
1492 \renewcommand*\{\LWR@tagsubsubsubsectionend\}{/h5}
1493 \renewcommand*\{\LWR@tagparagraph\}{h6}}
```

```
1494 \renewcommand*\{\LWR@tagparagraphend\}{/h6}
1495 \renewcommand*\{\LWR@tagsubparagraph\}{span class="subparagraph"}
1496 \renewcommand*\{\LWR@tagsubparagraphend\}{/span}
1497 }% WPTitleHeading
1498 {% not WPTitleHeading, part and section starting at h1
1499 \renewcommand*\{\LWR@tagtitle\}{div class="title"}
1500 \renewcommand*\{\LWR@tagtitleend\}{/div}
1501 \renewcommand*\{\LWR@tagpart\}{h1}
1502 \renewcommand*\{\LWR@tagpartend\}{/h1}
1503 \renewcommand*\{\LWR@tagsection\}{h2}
1504 \renewcommand*\{\LWR@tagsectionend\}{/h2}
1505 \renewcommand*\{\LWR@tagsubsection\}{h3}
1506 \renewcommand*\{\LWR@tagsubsectionend\}{/h3}
1507 \renewcommand*\{\LWR@tagsubsubsection\}{h4}
1508 \renewcommand*\{\LWR@tagsubsubsectionend\}{/h4}
1509 \renewcommand*\{\LWR@tagparagraph\}{h5}
1510 \renewcommand*\{\LWR@tagparagraphend\}{/h5}
1511 \renewcommand*\{\LWR@tagsubparagraph\}{h6}
1512 \renewcommand*\{\LWR@tagsubparagraphend\}{/h6}
1513 }% not WPTitleHeading
1514 }% chapter undefined
1515 {% chapter defined
1516 \ifbool{WPTitleHeading}{}%
1517 {% not WPTitleHeading, part and chapter starting at h1
1518 \renewcommand*\{\LWR@tagtitle\}{div class="title"}
1519 \renewcommand*\{\LWR@tagtitleend\}{/div}
1520 \renewcommand*\{\LWR@tagpart\}{h1}
1521 \renewcommand*\{\LWR@tagpartend\}{/h1}
1522 \renewcommand*\{\LWR@tagchapter\}{h2}
1523 \renewcommand*\{\LWR@tagchapterend\}{/h2}
1524 \renewcommand*\{\LWR@tagsection\}{h3}
1525 \renewcommand*\{\LWR@tagsectionend\}{/h3}
1526 \renewcommand*\{\LWR@tagsubsection\}{h4}
1527 \renewcommand*\{\LWR@tagsubsectionend\}{/h4}
1528 \renewcommand*\{\LWR@tagsubsubsection\}{h5}
1529 \renewcommand*\{\LWR@tagsubsubsectionend\}{/h5}
1530 \renewcommand*\{\LWR@tagparagraph\}{h6}
1531 \renewcommand*\{\LWR@tagparagraphend\}{/h6}
1532 \renewcommand*\{\LWR@tagsubparagraph\}{span class="subparagraph"}
1533 \renewcommand*\{\LWR@tagsubparagraphend\}{/span}
1534 }% not WPTitleHeading
1535 }% chapter defined
1536 }{}% FormatWP
1537 }% AtBeginDocument
1538 \end{warpHTML}
```

38 Remembering original formatting macros

for HTML output: 1539 \begin{warpHTML}

Remember original definitions of formatting commands. Will be changed to `HTML` commands for most uses. Will be temporarily restored to original meaning inside any `teximage` environment. Also nullify unused commands.

Some packages redefine `\#`, which is used to generate `HTML`, so the original must be remembered here.

```
1540 \chardef\LWR@origpound='\#
1541 \let\LWR@origcomma\
1542 \let\LWR@origthinspace\thinspace
1543 \let\LWR@orignegthinspace\negthinspace
1544 \let\LWR@origtilde~
1545 \let\LWR@origenskip\enskip
1546 \let\LWR@origquad\quad
1547 \let\LWR@origqquad\qquad
1548 \let\LWR@orighfil\hfil
1549 \let\LWR@orighss\hss
1550 \let\LWR@origllap\llap
1551 \let\LWR@origrlap\rlap
1552 \let\LWR@orighfilneg\hfilneg
1553 \let\LWR@orighspace\hspace
1554
1555 \let\LWR@origrule\rule
1556
1557 \let\LWR@origmedskip\medskip
1558 \let\LWR@origbigskip\bigskip
1559
1560 \let\LWR@origtextellipsis\textellipsis
1561 \let\LWR@orig@textquotedbl\textquotedbl
1562
1563 \LetLtxMacro{\LWR@origttfamily}{\ttfamily}
1564
1565 \LetLtxMacro{\LWR@origem}{\em}
1566
1567 \LetLtxMacro{\LWR@orignormalfont}{\normalfont}
1568
1569 \let\LWR@origonecolumn\onecolumn
1570
1571 \let\LWR@origsp\sp
1572 \let\LWR@origsb\sb
1573 \LetLtxMacro{\LWR@origtextsuperscript}{\textsuperscript}
1574 \LetLtxMacro{\LWR@orig@textsuperscript}{\textsuperscript}
1575
1576 \AtBeginDocument{
1577 \LetLtxMacro{\LWR@origtextsubscript}{\textsubscript}
1578 \LetLtxMacro{\LWR@orig@textsubscript}{\textsubscript}
1579 }
1580
1581 \LetLtxMacro{\LWR@origunderline}{\underline}
1582 \let\LWR@orignewpage\newpage
1583
1584 \let\LWR@origpagestyle\pagestyle
1585 \let\LWR@origthispagestyle>thispagestyle
```

```

1586 \LetLtxMacro{\LWR@origpagenumbering}{\pagenumbering}
1587
1588 \let\LWR@orignewline\newline
1589
1590
1591 \AtBeginDocument{%
1592   \let\LWR@orig@trivlist\@trivlist
1593   \let\LWR@origtrivlist\trivlist
1594   \let\LWR@origendtrivlist\endtrivlist
1595   \LetLtxMacro{\LWR@origitem}{\item}
1596   \LetLtxMacro{\LWR@origitemize}{\itemize}
1597   \LetLtxMacro{\LWR@endorigitemize}{\enditemize}
1598   \LetLtxMacro{\LWR@origenumerate}{\enumerate}
1599   \LetLtxMacro{\LWR@endorigenumerate}{\endenumerate}
1600   \LetLtxMacro{\LWR@origdescription}{\description}
1601   \LetLtxMacro{\LWR@endorigdescription}{\enddescription}
1602   \let\LWR@orig@mklab\@mklab
1603   \let\LWR@origmakelabel\makelabel
1604   \let\LWR@orig@donoparitem\@donoparitem
1605   \LetLtxMacro{\LWR@orig@item}{\item}
1606   \let\LWR@orig@nbitem\@nbitem
1607 }
1608
1609 \let\LWR@origpar\par
1610
1611 \LetLtxMacro{\LWR@origfootnote}{\footnote}
1612 \let\LWR@orig@mpfootnotetext\@mpfootnotetext
1613
1614
1615 \AtBeginDocument{%
1616   \LetLtxMacro{\LWR@orighline}{\hline}
1617   \LetLtxMacro{\LWR@origcline}{\cline}
1618 }
1619 \end{warpHTML}

```

39 Accents

Native L^AT_EX accents such as `\"` will work, but many more kinds of accents are available when using Unicode-aware X^EL^AT_EX and LuaL^AT_EX.

for HTML output: 1620 \begin{warpHTML}

Without `\AtBeginDocument`, `\t` was being re-defined somewhere.

```
1621 \AtBeginDocument{
```

The following are restored for print when inside a `lateximage`.

For Unicode engines, only `\t` needs to be redefined:

```
1622 \LetLtxMacro{\LWR@origt}{\t}
```

For pdfL^AT_EX, additional work is required:

```
1623 \ifPDFTeX% pdflatex or dvi latex
1624 \LetLtxMacro{\LWR@origequalaccent}{%
1625 \LetLtxMacro{\LWR@origdotaccent}{%
1626 \LetLtxMacro{\LWR@origu}{%
1627 \LetLtxMacro{\LWR@origv}{%
1628 \LetLtxMacro{\LWR@origc}{%
1629 \LetLtxMacro{\LWR@origd}{%
1630 \LetLtxMacro{\LWR@origb}{%
```

The HTML redefinitions follow.

For pdfL^AT_EX, Unicode diacritical marks are used:

```
1631 \renewcommand*{\=}[1]{\#1\HTMLunicode{0305}}%
1632 \renewcommand*{\.}[1]{\#1\HTMLunicode{0307}}%
1633 \renewcommand*{\u}[1]{\#1\HTMLunicode{0306}}%
1634 \renewcommand*{\v}[1]{\#1\HTMLunicode{030C}}%
1635 \renewcommand*{\c}[1]{\#1\HTMLunicode{0327}}%
1636 \renewcommand*{\d}[1]{\#1\HTMLunicode{0323}}%
1637 \renewcommand*{\b}[1]{\#1\HTMLunicode{0331}}%
1638 \fi
```

For all engines, a Unicode diacritical tie is used:

```
1639 \def{\LWR@t#1#2}{\#1\HTMLunicode{0361}\#2}%
1640 \renewcommand*{\t}[1]{\LWR@t#1}
```

\LWR@restoreorigaccents Called from \restoreoriginalformatting when a `lateximage` is begun.

```
1641 \ifPDFTeX% pdflatex or dvi latex
1642 \newcommand*{\LWR@restoreorigaccents}{%
1643 \LetLtxMacro{\=}{\LWR@origequalaccent}%
1644 \LetLtxMacro{\.}{\LWR@origdotaccent}%
1645 \LetLtxMacro{\u}{\LWR@origu}%
1646 \LetLtxMacro{\v}{\LWR@origv}%
1647 \LetLtxMacro{\t}{\LWR@origt}%
1648 \LetLtxMacro{\c}{\LWR@origc}%
1649 \LetLtxMacro{\d}{\LWR@origd}%
1650 \LetLtxMacro{\b}{\LWR@origb}%
1651 }%
1652 \else% XeLaTeX, LuaLaTeX:
1653 \newcommand*{\LWR@restoreorigaccents}{%
1654 \LetLtxMacro{\t}{\LWR@origt}%
1655 }%
1656 \fi%
1657 }% AtBeginDocument
```

```
1658 \end{warpHTML}
```

40 Configuration files

40.1 Decide whether to generate configuration files

Configuration files are only written if processing the print version of the document, and not processing a `pstool` image. `pstool` uses an additional compile for each image using the original document's preamble, which includes `l warp`, so the `l warp` configuration files are turned off if `-pstool` is part of the `\jobname`.

Default to no configuration files:

```
1659 \excludecomment{LWRwriteconf}
```

Generate configuration files if print mode and not `-pstool`:

```
for PRINT output: 1660 \begin{warpprint}
1661 \fullexpandarg%
1662 \IfSubStr*\{\jobname\}{-pstool}
1663 {
1664     \PackageInfo{l warp}{%
1665         Jobname with -pstool is found.\MessageBreak
1666         Not generating l warp configuration files,%
1667     }
1668 }
1669 {
1670     \PackageInfo{l warp}{Generating l warp configuration files,}%
1671     \includecomment{LWRwriteconf}
1672 }
1673 \end{warpprint}
```

40.2 <project>.html.tex

File `*_html.tex` Used to allow an HTML version of the document to exist alongside the print version.

Config file:

```
1674 \begin{LWRwriteconf}
1675 \immediate\openout\LWR@quickfile=\jobname_html.tex
1676 \immediate\write\LWR@quickfile{%
1677 \detokenize{\PassOptionsToPackage}{%
1678 {warpHTML,BaseJobname=\jobname}\{l warp\}}%
1679 }
1680 \immediate\write\LWR@quickfile{%
1681 \detokenize{\input}\string{\jobname.tex}\string }%
1682 }
1683 \immediate\closeout\LWR@quickfile
1684 \end{LWRwriteconf}
```

40.3 *l warpmk* configuration files

Config file:

```
1685 \begin{LWRwriteconf}
```

\LWR@lwarpconfversion The version number of the configuration file, allowing *lwarpmk* to detect an obsolete configuration file format. Incremented by one each time the configuration file format changes. (This is NOT the same as the *lwarp* version number.)

```
1686 \newcommand*{\LWR@lwarpconfversion}{2}%
  also in lwarpmk.lua
```

40.3.1 Helper macros

\LWR@shellescapecmd The LaTeX compile option for shell escape, if used.

```
1687 \ifshellescape
 1688   \def\LWR@shellescapecmd{--shell-escape }
 1689 \else
 1690   \def\LWR@shellescapecmd{}
 1691 \fi
```

\LWR@compilecmd {\langle engine\rangle} {\langle suffix\rangle}

Used to form the basic compilation command for a document, adding the optional shell escape.

Engine is *pdflatex*, etc. Suffix is empty or _html

```
1692 \newcommand*{\LWR@compilecmd}[2]{%
 1693   #1 \LWR@shellescapecmd \jobname#2%
 1694 }
```

\LWR@addcompilecmd {\langle cmd\rangle} {\langle suffix\rangle}

Adds to the compilation command.

Cmd is *dvipdfmx*, etc. Suffix is empty or _html

```
1695 \newcommand*{\LWR@addcompilecmd}[2]{%
 1696   \LWRopseq
 1697   #1 \jobname#2%
 1698 }
```

\LWR@unknownengine Error message if not sure which L^AT_EX engine is being used.

```
1699 \newcommand*{\LWR@unknownengine}{%
 1700   \PackageError{lwarp}{%
 1701     {Unknown LATEX engine.}%
 1702     {Lwarp only knows about pdflatex, dvi latex, xelatex, lualatex, and upLateX.}%
 1703 }}
```

\LWR@latexmkvar {\langle varname\rangle} {\langle value\rangle}

Adds a *latexmk* variable assignment.

```

1704 \newcommand*{\LWR@latexmkvar}[2]{%
1705     -e
1706     \LWRopquote%
1707     \LWRdollar #1=q/#2/%
1708     \LWRopquote
1709 }

```

\LWR@latexmkcmd {⟨*latexmk options*⟩}

Sets a call to *latexmk* with the given options, possibly adding --shell-escape, and also adding the indexing program.

```

1710 \newcommand*{\LWR@Latexmkcmd}[1]{%
1711     Latexmk \space \LWR@shellescapecmd \space #1 \space
1712     -recorder \space
1713     \LWR@latexmkvar{makeindex}{\LWR@LatexmkIndexCmd}
1714 }

```

\LWR@latexmkdvipdfm {⟨*dvipdfm or dvipdfmx*⟩}

Adds the options settings for *dvipdfm* or *dvipdfmx*.

```

1715 \newcommand*{\LWR@latexmkdvipdfm}[1]{%
1716     -pdfdvi \space
1717     \LWR@latexmkvar{dvipdf}{%
1718         #1
1719         \@percentchar 0
1720         -o \@percentchar D
1721         \@percentchar S%
1722     }
1723 }

```

\LWR@compileuplatex Sets compile options for upLATEX with ujarticle or related classes.

```

1724 \newcommand*{\LWR@compileuplatex}{%
1725     \def\LWR@tempprintlatexcmd{%
1726         \LWR@compilecmd{uplatex}{}%
1727         \LWR@addcompilecmd{dvipdfmx}{}%
1728     }
1729     \def\LWR@tempHTMLlatexcmd{%
1730         \LWR@compilecmd{uplatex}{_html}%
1731         \LWR@addcompilecmd{dvipdfmx}{_html}%
1732     }
1733 }

```

\LWR@PrintLatexCmd If not set by the user, the following sets the command to use to compile the source to PDF form.

If using *latexmk*, a complicated string is created, eventually resulting in something such as:

For *xelatex* with --shell-escape:

```
[[latexmk -xelatex --shell-escape -recorder
-e '$makeindex = q/makeindex -s lwarf.ist/' <jobname>.html]]
```

For *dvipdfmx*:

```
[[latexmk -pdfdvi -e '$dvipdf=q/dvipdfmx %0 -o %D %S/'
-recorder
-e '$makeindex=q/makeindex -s lwarf.ist/' <jobname>.html]]
```

For the following, temporary values are computed, but the permanent values are only set if the originals were not assigned by the user.

1734 \ifbool{LWR@latexmk}{

For *latexmk* with *pdflatex* or *lualatex*:

1735 \ifpdf

For *latexmk* with *pdflatex*:

1736 \ifPDFTeX
1737 \def\LWR@latexcmd{\LWR@latexmkcmd{-pdf -dvi- -ps-}}
1738 \else

For *latexmk* with *lualatex*:

1739 \ifLuaTeX
1740 \def\LWR@latexcmd{\LWR@latexmkcmd{-lualatex}}
1741 \else
1742 \LWR@unknownengine
1743 \fi
1744 \fi
1745 \else% \ifpdf

For *latexmk* with *xelatex* or *DVI latex*:

1746 \ifXeTeX

For *latexmk* with *xelatex*:

1747 \def\LWR@latexcmd{\LWR@latexmkcmd{-xelatex}}
1748 \else% \ifXeTeX

For *latexmk* with *DVI latex*:

1749 \ifbool{LWR@dvipdfm}{
1750 \def\LWR@latexcmd{%
1751 \LWR@latexmkcmd{%
1752 \LWR@latexmkdvipdfm{dvipdfm}}%

```

1753          }
1754      }
1755  }{
1756      \ifbool{LWR@dvipdfmx}{
1757          \def\LWR@latexcmd{%
1758              \LWR@latexmkcmd{%
1759                  \LWR@latexmkdvipdfm{dvipdfmx}%
1760              }
1761          }
1762      }{
1763          \def\LWR@latexcmd{\LWR@latexmkcmd{-pdfps}}
1764      }
1765  }
1766  \fi
1767 \fi% \ifpdf

```

The final assignment if *latexmk*:

```

1768  \def\LWR@tempprintlatexcmd{\LWR@latexcmd \space \jobname}
1769  \def\LWR@tempHTMLlatexcmd{\LWR@latexcmd \space \jobname_html}
1770 }% latexmk

```

Without *latexmk*, the compiling command is simply the compiler name and the optional shell escape:

```

1771 {%
1772     \ifpdf

```

For *pdflatex* or *lualatex*:

```

1773     \ifPDFTeX

```

For *pdflatex*:

```

1774         \def\LWR@tempprintlatexcmd{\LWR@compilecmd{pdflatex}{[]}}
1775         \def\LWR@tempHTMLlatexcmd{\LWR@compilecmd{pdflatex}{_html}}
1776     \else
1777         \ifLuaTeX

```

For *lualatex*:

```

1778             \def\LWR@tempprintlatexcmd{\LWR@compilecmd{lualatex}{[]}}
1779             \def\LWR@tempHTMLlatexcmd{\LWR@compilecmd{lualatex}{_html}}
1780         \else
1781             \LWR@unknownengine
1782         \fi
1783     \else
1784     \else% \ifpdf

```

For dvi *latex* or *xelatex*:

```

1785     \ifXeTeX

```

For *xelatex*:

```
1786           \def\LWR@tempprintlatexcmd{\LWR@compilecmd{xelatex}{}}
1787           \def\LWR@tempHTMLlatexcmd{\LWR@compilecmd{xelatex}{_html}}
1788       \else
```

For dvi *latex*. Default to *dvips*, unless told to use *dvipdfm* or *dvipdfmx*:

```
1789           \ifbool{LWR@dvipdfm}{
```

For dvi *latex* with *dvipdfm*:

```
1790           \def\LWR@tempprintlatexcmd{%
1791               \LWR@compilecmd{latex}{}
1792               \LWR@addcompilecmd{dvipdfm}{}
1793           }
1794           \def\LWR@tempHTMLlatexcmd{%
1795               \LWR@compilecmd{latex}{_html}
1796               \LWR@addcompilecmd{dvipdfm}{_html}
1797           }
1798       }{
1799           \ifbool{LWR@dvipdfmx}{
```

For dvi *latex* with *dvipdfmx*:

```
1800           \def\LWR@tempprintlatexcmd{%
1801               \LWR@compilecmd{latex}{}
1802               \LWR@addcompilecmd{dvipdfmx}{}
1803           }
1804           \def\LWR@tempHTMLlatexcmd{%
1805               \LWR@compilecmd{latex}{_html}
1806               \LWR@addcompilecmd{dvipdfmx}{_html}
1807           }
1808       }% dvips
```

For dvi *latex* with *dvips* and *ps2pdf*:

```
1809           \def\LWR@tempprintlatexcmd{%
1810               \LWR@compilecmd{latex}{}
1811               \LWR@addcompilecmd{dvips}{}
1812               \LWR@addcompilecmd{ps2pdf}{.ps}
1813           }
1814           \def\LWR@tempHTMLlatexcmd{%
1815               \LWR@compilecmd{latex}{_html}
1816               \LWR@addcompilecmd{dvips}{_html}
1817               \LWR@addcompilecmd{ps2pdf}{_html}.ps
1818           }
1819       }
1820   }
1821   \fi% \ifXeTeX
1822 \fi% \ifpdf
1823 }% latexmk
```

For *ujarticle*, *utarticle*, and related, using up^LT_EX and *dvipdfmx*:

```

1824 \@ifclassloaded{ujarticle}{\LWR@compileuplatex}{}  

1825 \@ifclassloaded{ujbook}{\LWR@compileuplatex}{}  

1826 \@ifclassloaded{ujreport}{\LWR@compileuplatex}{}  

1827 \@ifclassloaded{utarticle}{\LWR@compileuplatex}{}  

1828 \@ifclassloaded{utbook}{\LWR@compileuplatex}{}  

1829 \@ifclassloaded{utreport}{\LWR@compileuplatex}{}  


```

Only make the setting permanent if the original was empty:

```

1830 \ifdefempty{\LWR@PrintLatexCmd}{  

1831     \def\LWR@PrintLatexCmd{\LWR@tempprintlatexcmd}  

1832 }{}  

1833 \ifdefempty{\LWR@HTMLLatexCmd}{  

1834     \def\LWR@HTMLLatexCmd{\LWR@tempHTMLlatexcmd}  

1835 }{}  


```

\LWR@writeconf {<filename>}

Common code for each of lwarpmk.conf and <project>.lwarpmkconf. Each entry is a variable name, the equal sign, and a quoted string inside [[and]], which are *lua*'s long quote characters, allowing the use of single and double quotes inside.

```

1836 \newcommand{\LWR@writeconf}[1]{  

1837 \ifcsdef{\LWR@quickfile}{}{\newwrite{\LWR@quickfile}}  

1838 \immediate\openout\LWR@quickfile=\#1  

1839 \immediate\write{\LWR@quickfile}{confversion = [[\LWR@lwarpmkconfversion]]}  

1840 \ifbool{usingOSWindows}{  

1841     \immediate\write{\LWR@quickfile}{opsystem = [[Windows]]}  

1842 }{  

1843     \immediate\write{\LWR@quickfile}{opsystem = [[Unix]]}  

1844 }  

1845 \immediate\write{\LWR@quickfile}{sourcename = [[\jobname]]}  

1846 \immediate\write{\LWR@quickfile}{homehtmlfilename = [[\HomeHTMLFilename]]}  

1847 \immediate\write{\LWR@quickfile}{htmlfilename = [[\HTMLFilename]]}  

1848 \immediate\write{\LWR@quickfile}{imagesdirectory = [[\LWR@ImagesDirectory]]}  

1849 \immediate\write{\LWR@quickfile}{imagesname = [[\LWR@ImagesName]]}  

1850 \immediate\write{\LWR@quickfile}{latexmk = [[\ifbool{\LWR@latexmk}{true}{false}]]}  

1851 \immediate\write{\LWR@quickfile}{printlatexcmd = [[\LWR@PrintLatexCmd]]}  

1852 \immediate\write{\LWR@quickfile}{HTMLlatexcmd = [[\LWR@HTMLLatexCmd]]}  

1853 \immediate\write{\LWR@quickfile}{printindexcmd = [[\LWR@PrintIndexCmd]]}  

1854 \immediate\write{\LWR@quickfile}{HTMLindexcmd = [[\LWR@HTMLIndexCmd]]}  

1855 \immediate\write{\LWR@quickfile}{latexmkindexcmd = [[\LWR@LatexmkIndexCmd]]}  

1856 \immediate\write{\LWR@quickfile}{glossarycmd = [[\LWR@GlossaryCmd]]}  

1857 \immediate\write{\LWR@quickfile}{pdftotextenc = [[\LWR@pdftotextEnc]]}  

1858 \immediate\closeout{\LWR@quickfile}  

1859 }  

1860  

1861 \end{\LWR@writeconf}

```

40.3.2 lwarpmk.conf

File lwarpmk.conf lwarpmk.conf is automatically (re-)created by the lwarf package when executing

pdflatex <project.tex>,
 or similar for *xelatex* or *lualatex*, in print-document generation mode, which is the default unless the *warpHTML* option is given. *lwarpmk.conf* is then used by the utility *lwarpmk*.

Config file: 1862 \begin{LWRwriteconf}
 1863
 1864 \AtBeginDocument{\LWR@writeconf{\lwarpmk.conf}}
 1865
 1866 \end{LWRwriteconf}

40.3.3 <project>.lwarpmkconf

File project.lwarpmkconf A project-specific configuration file for *lwarpmk*.

The *makeindex* and *xindy* options have already been handled for *lwarp.conf*.

Config file: 1867 \begin{LWRwriteconf}
 1868
 1869 \AtBeginDocument{\LWR@writeconf{\jobname.lwarpmkconf}}
 1870
 1871 \end{LWRwriteconf}

40.4 lwarp.css

File lwarp.css This is the base css layer used by *lwarp*.

This must be present both when compiling the project and also when distributing the HTML files.

Config file: 1872 \begin{LWRwriteconf}
 1873 \begin{filecontents*}[overwrite]{lwarp.css}
 1874 /*
 1875 CSS stylesheet for the LaTeX Lwarp package
 1876 Copyright 2016–2020 Brian Dunn – BD Tech Concepts LLC
 1877 */
 1878
 1879
 1880 /* a fix for older browsers: */
 1881 header, section, footer, aside, nav, main,
 1882 article, figure { display: block; }
 1883
 1884
 1885 A:link {color:#000080 ; text-decoration: none ; }
 1886 A:visited {color:#800000 ; }
 1887 A:hover {color:#000080 ; text-decoration: underline ; }
 1888 A:active {color:#800000 ; }
 1889
 1890 a.tocbook {display: inline-block ; margin-left: 0em ;
 1891 font-weight: bold ; margin-top: 1ex ; margin-bottom: 1ex ; }
 1892 a.tocpart {display: inline-block ; margin-left: 0em ;
 1893 font-weight: bold ; }

```
1894 a.tocchapter {display: inline-block ; margin-left: 0em ;
1895     font-weight: bold ;}
1896 a.tocsection {display: inline-block ; margin-left: 1em ;
1897     text-indent: -.5em ; font-weight: bold ;}
1898 a.tocsubsection {display: inline-block ; margin-left: 2em ;
1899     text-indent: -.5em ;}
1900 a.tocsubsubsection {display: inline-block ; margin-left: 3em ;
1901     text-indent: -.5em ;}
1902 a.tocparagraph {display: inline-block ; margin-left: 4em ;
1903     text-indent: -.5em ;}
1904 a.tocsubparagraph {display: inline-block ; margin-left: 5em ;
1905     text-indent: -.5em ;}
1906 a.tocfigure {margin-left: 0em}
1907 a.tocsubfigure {margin-left: 2em}
1908 a.tocitable {margin-left: 0em}
1909 a.tocsubtable {margin-left: 2em}
1910 a.toctheorem {margin-left: 0em}
1911 a.toclstlisting {margin-left: 0em}
1912
1913 body {
1914     font-family: "DejaVu Serif", "Bitstream Vera Serif",
1915         "Lucida Bright", Georgia, serif;
1916     background: #FAF7F4 ;
1917     color: black ;
1918     margin:0em ;
1919     padding:0em ;
1920     font-size: 100% ;
1921     line-height: 1.2 ;
1922 }
1923
1924 p {margin: 1.5ex 0em 1.5ex 0em ;}
1925 table p {margin: .5ex 0em .5ex 0em ;}
1926
1927 /* Holds a section number */
1928 span.sectionnumber { margin-right: 0em }
1929
1930 /* Inserted in front of index lines */
1931 span.indexitem {margin-left: 0em}
1932 span.indexsubitem {margin-left: 2em}
1933 span.indexsubsubitem {margin-left: 4em}
1934
1935 div.hidden, span.hidden { display: none ; }
1936
1937 kbd, span.texttt {
1938     font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
1939         "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
1940         "Courier New", monospace;
1941     font-size: 100% ;
1942 }
1943
1944 pre { padding: 3pt ; }
1945
1946 span.strong, span.textbf, div.strong, div.textbf { font-weight: bold; }
1947
1948 span.textit, div.textit { font-style: italic; }
```

```
1949
1950 span.textmd, div.textmd { font-weight: normal; }
1951
1952 span.texteb { font-weight: bolder; }
1953
1954 span.textlg { font-weight: lighter; }
1955
1956 span.textup, div.textup {
1957     font-style: normal;
1958     font-variant: normal;
1959     font-variant-numeric: normal ;
1960 }
1961
1962 span.textsc, div.textsc {
1963     font-variant: small-caps;
1964     font-variant-numeric: oldstyle-nums ;
1965 }
1966
1967 span.textulc, div.textulc {
1968     font-variant: normal ;
1969     font-variant-numeric: normal ;
1970 }
1971
1972 span.textsl, div.textsl { font-style: oblique; }
1973
1974 span.textrm, div.textrm {
1975     font-family: "DejaVu Serif", "Bitstream Vera Serif",
1976     "Lucida Bright", Georgia, serif;
1977 }
1978
1979 span.textsf, div.textsf {
1980     font-family: "DejaVu Sans", "Bitstream Vera Sans",
1981     Geneva, Verdana, sans-serif ;
1982 }
1983
1984 span.textcircled { border: 1px solid black ; border-radius: 1ex ; }
1985
1986 span.underline {
1987     text-decoration: underline ;
1988     text-decoration-skip: auto ;
1989 }
1990
1991 span.overline {
1992     text-decoration: overline ;
1993     text-decoration-skip: auto ;
1994 }
1995
1996
1997 /* for vertical text: */
1998 div.verticalrl { writing-mode: vertical-rl }
1999 div.horizontaltb { writing-mode: horizontal-tb }
2000
2001
2002 /* for diagbox */
2003 div.diagboxtitleN { border-bottom: 1px solid gray }
```

```
2004 div.diagboxtitleS { border-top: 1px solid gray }
2005
2006 div.diagboxE {
2007     padding-left: 2em ;
2008     text-align: right ;
2009 }
2010
2011 div.diagboxW {
2012     padding-right: 2em ;
2013     text-align: left ;
2014 }
2015
2016
2017
2018 /* For realscripts */
2019 .supsubscript {
2020     display: inline-block;
2021     text-align:left ;
2022 }
2023
2024 .supsubscript sup,
2025 .supsubscript sub {
2026     position: relative;
2027     display: block;
2028     font-size: .5em;
2029     line-height: 1;
2030 }
2031
2032 .supsubscript sup {
2033     top: .5em;
2034 }
2035
2036 .supsubscript sub {
2037     top: .5em;
2038 }
2039
2040 div.attribution p {
2041     text-align: right ;
2042     font-size: 80%
2043 }
2044
2045 span.poemtitle {
2046     font-size: 120% ; font-weight: bold;
2047 }
2048
2049 pre.tabbing {
2050     font-family: "Linux Libertine Mono O", "Lucida Console",
2051             "Droid Sans Mono", "DejaVu Mono", "Bitstream Vera Mono",
2052             "Liberation Mono", "FreeMono", "Andale Mono",
2053             "Nimbus Mono L", "Courier New", monospace;
2054 }
2055
2056 blockquote {
2057     display: block ;
2058     margin-left: 2em ;
```

```
2059     margin-right: 2em ;
2060 }
2061
2062 /* quotchap is for the quotchap package */
2063 div.quotchap {
2064     display: block ;
2065     font-style: oblique ;
2066     overflow-x: auto ;
2067     margin-left: 2em ;
2068     margin-right: 2em ;
2069 }
2070
2071blockquote p, div.quotchap p {
2072     line-height: 1.5;
2073     text-align: left ;
2074     font-size: .85em ;
2075 }
2076
2077 /* qauthor is for the quotchap package */
2078 div.qauthor {
2079     display: block ;
2080     text-align: right ;
2081     margin-left: auto ;
2082     margin-right: 2em ;
2083     font-size: 80% ;
2084     font-variant: small-caps;
2085 }
2086
2087 div.qauthor p {
2088     text-align: right ;
2089 }
2090
2091 div.epigraph, div.dictum {
2092     line-height: 1.2;
2093     text-align: left ;
2094     padding: 3ex 1em 0ex 1em ;
2095     /*     margin: 3ex auto 3ex auto ; */ /* Epigraph centered */
2096     margin: 3ex 1em 3ex auto ; /* Epigraph to the right */
2097     /*     margin: 3ex 1em 3ex 1em ; */ /* Epigraph to the left */
2098     font-size: .85em ;
2099     max-width: 27em ;
2100 }
2101
2102 div.epigraphsource, div.dictumauthor {
2103     text-align:right ;
2104     margin-left:auto ;
2105     /*     max-width: 50% ; */
2106     border-top: 1px solid #A0A0A0 ;
2107     padding-bottom: 3ex ;
2108     line-height: 1.2;
2109 }
2110
2111 div.epigraph p, div.dictum p { padding: .5ex ; margin: 0ex ;}
2112 div.epigraphsource p, div.dictumauthor p { padding: .5ex 0ex 0ex 0ex ; margin: 0ex ;}
2113 div.dictumauthor { font-style:italic }
```

```
2114
2115
2116 /* copyrightbox package */
2117 div.copyrightbox { margin: .5ex .5em }
2118 div.copyrightbox p {margin: 0px .5em ; padding: 0px}
2119 div.copyrightboxnote {text-align: left ; font-size: 60%}
2120
2121
2122 /* lettrine package: */
2123 span.lettrine { font-size: 4ex ; float: left ; }
2124 span.lettrinetext { font-variant: small-caps ; }
2125
2126 /* ulem, soul, umoline packages: */
2127 span.uline {
2128     text-decoration: underline ;
2129     text-decoration-skip: auto ;
2130 }
2131
2132 span.uline {
2133     text-decoration: underline ;
2134     text-decoration-skip: auto ;
2135     text-decoration-style: double ;
2136 }
2137
2138 span.uwave {
2139     text-decoration: underline ;
2140     text-decoration-skip: auto ;
2141     text-decoration-style: wavy ;
2142 }
2143
2144 span.sout {
2145     text-decoration: line-through ;
2146 }
2147
2148 span.oline {
2149     text-decoration: overline ;
2150     text-decoration-skip: auto ;
2151 }
2152
2153 span.xout {
2154     text-decoration: line-through ;
2155 }
2156
2157 span.dashuline {
2158     text-decoration: underline ;
2159     text-decoration-skip: auto ;
2160     text-decoration-style: dashed ;
2161 }
2162
2163 span.dotuline {
2164     text-decoration: underline ;
2165     text-decoration-skip: auto ;
2166     text-decoration-style: dotted ;
2167 }
2168
```

```
2169 span.letterspacing { letter-spacing: .2ex ; }
2170
2171 span.capsspacing {
2172     font-variant: small-caps ;
2173     letter-spacing: .1ex ;
2174 }
2175
2176 span.highlight { background: #F8E800 ; }
2177
2178
2179
2180
2181 html body {
2182     margin: 0 ;
2183     line-height: 1.2;
2184 }
2185
2186
2187 body div {
2188     margin: 0ex;
2189 }
2190
2191
2192 div.book, h1, h2, h3, h4, h5, h6, span.paragraph, span.subparagraph
2193 {
2194     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
2195         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
2196         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
2197         "Times New Roman", serif;
2198     font-style: normal ;
2199     font-weight: bold ;
2200     text-align: left ;
2201 }
2202
2203 h1 /* title of the entire website, used on each page */
2204     text-align: center ;
2205     font-size: 2.5em ;
2206     padding: .4ex 0em 0ex 0em ;
2207 }
2208
2209 div.book {
2210     text-align: center ;
2211     font-size: 2.325em ;
2212     padding: .4ex 0em 0ex 0em ;
2213 }
2214
2215 h2 { font-size: 2.25em }
2216 h3 { font-size: 2em }
2217 h4 { font-size: 1.75em }
2218 h5 { font-size: 1.5em }
2219 h6 { font-size: 1.25em }
2220 span.paragraph {font-size: 1em ; font-variant: normal ;
2221     margin-right: 1em ; }
2222 span.subparagraph {font-size: 1em ; font-variant: normal ;
2223     margin-right: 1em ; }
```

```
2224
2225 div.minisec {
2226     font-family: "DejaVu Sans", "Bitstream Vera Sans",
2227         Geneva, Verdana, sans-serif ;
2228     font-style: normal ;
2229     font-weight: bold ;
2230     text-align: left ;
2231 }
2232
2233 h1 {
2234     margin: 0ex 0em 0ex 0em ;
2235     line-height: 1.3;
2236     text-align: center ;
2237 }
2238
2239 h2 {
2240     margin: 1ex 0em 1ex 0em ;
2241     line-height: 1.3;
2242     text-align: center ;
2243 }
2244
2245 h3 {
2246     margin: 3ex 0em 1ex 0em ;
2247     line-height: 1.3;
2248 }
2249
2250 h4 {
2251     margin: 3ex 0em 1ex 0em ;
2252     line-height: 1.3;
2253 }
2254
2255 h5 {
2256     margin: 3ex 0em 1ex 0em ;
2257     line-height: 1.3;
2258 }
2259
2260 h6 {
2261     margin: 3ex 0em 1ex 0em ;
2262     line-height: 1.3;
2263 }
2264
2265
2266 div.titlepage {
2267     text-align: center ;
2268 }
2269
2270 .footnotes {
2271     text-align: left ;
2272     font-size: .85em ;
2273     margin: 3ex 2em 0ex 2em ;
2274     border-top: 1px solid silver ;
2275 }
2276
2277 .marginpar, .marginparblock {
2278     max-width: 50%;
```

```
2279     float: right ;
2280     clear: both ;
2281     text-align: left ;
2282     margin: 1ex 0.5em 1ex 1em ;
2283     padding: 1ex 0.5em 1ex 0.5em ;
2284     font-size: 85% ;
2285     border-top: 1px solid silver ;
2286     border-bottom: 1px solid silver ;
2287     overflow-x: auto ;
2288 }
2289
2290 .marginpar br { margin-bottom: 2ex ; }
2291
2292 div.marginblock, div.marginparblock {
2293     max-width:50%;
2294     min-width: 10em; /* room for caption */
2295     float:right;
2296     text-align:left;
2297     margin: 1ex 0.5em 1ex 1em ;
2298     padding: 1ex 0.5em 1ex 0.5em ;
2299     overflow-x: auto;
2300 }
2301
2302 div.marginblock div.minipage,
2303 div.marginparblock div.minipage {
2304     display: inline-block ;
2305     margin: 0pt auto 0pt auto ;
2306 }
2307
2308 div.marginblock div.minipage p ,
2309 div.marginparblock div.minipage p
2310     { font-size: 85%}
2311
2312 div.marginblock br ,
2313 div.marginparblock br
2314     { margin-bottom: 2ex ; }
2315
2316 div.bodycontainer {
2317     float: left ;
2318     width: 80% ;
2319 }
2320
2321 div.bodywithoutsidetoc div.bodycontainer {
2322     float: none ;
2323     width: 100% ;
2324 }
2325
2326 section.textbody div.footnotes{
2327     margin: 3ex 2em 0ex 2em ;
2328     border-bottom: 2px solid silver ;
2329 }
2330
2331 .footnoteheader {
2332     border-top: 2px solid silver ;
2333     margin-top: 3ex ;
```

```
2334     padding-top: 1ex ;
2335     font-weight: bold ;
2336 }
2337
2338 .mpfootnotes {
2339     text-align: left ;
2340     font-size: .85em ;
2341     margin-left: 1em ;
2342     border-top: 1px solid silver ;
2343 }
2344
2345 /* Remove footnote top border in the title page. */
2346 div.titlepage div.mpfootnotes {
2347     border-top: none ;
2348 }
2349
2350
2351
2352 ul, ol {
2353     margin: 1ex 1em 1ex 0em;
2354     line-height: 1.2;
2355 }
2356
2357 body dir, body menu {
2358     margin: 3ex 1em 3ex 0em;
2359     line-height: 1.2;
2360 }
2361
2362 li { margin: 0ex 0em 1ex 0em; }
2363
2364 html {
2365     margin: 0;
2366     padding: 0;
2367 }
2368
2369 .programlisting {
2370     font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
2371                 "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
2372                 "Courier New", monospace;
2373     margin: 1ex 0ex 1ex 0ex ;
2374     padding: .5ex 0pt .5ex 0pt ;
2375     overflow-x: auto;
2376 }
2377
2378 section.textbody>pre.programlisting {
2379 border-top: 1px solid silver ;
2380 border-bottom: 1px solid silver ;
2381 }
2382
2383
2384 div.displaymath {
2385     text-align: center ;
2386 }
2387
2388 div.displaymathnumbered {
```

```
2389     text-align: right ;
2390     margin-left: 5% ;
2391     margin-right: 5% ;
2392     min-width: 2.5in ;
2393 }
2394
2395 @media all and (min-width: 400px) {
2396     div.displaymathnumbered {
2397         margin-left: 10% ;
2398         margin-right: 10% ;
2399     }
2400 }
2401
2402 @media all and (min-width: 800px) {
2403     div.displaymathnumbered {
2404         margin-right: 20% ;
2405     }
2406 }
2407
2408 @media all and (min-width: 1200px) {
2409     div.displaymathnumbered {
2410         margin-right: 30% ;
2411     }
2412 }
2413
2414
2415 .inlineprogramlisting {
2416     font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
2417                 "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
2418                 "Courier New", monospace;
2419     overflow-x: auto;
2420 }
2421
2422 span.listinglabel {
2423     display: inline-block ;
2424     font-size: 70% ;
2425     width: 4em ;
2426     text-align: right ;
2427     margin-right: 2em ;
2428 }
2429
2430 div.abstract {
2431     margin: 2em 5% 2em 5% ;
2432     padding: 1ex 1em 1ex 1em ;
2433 /* font-weight: bold ; */
2434     font-size: 90% ;
2435     text-align: left ;
2436 }
2437
2438 div.abstract dl {line-height:1.5;}
2439 div.abstract dt {color:#304070;}
2440
2441 div.abstracttitle{
2442     font-family: "URW Classico", Optima, "Linux Biolinum O",
2443                 "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
```

```
2444     "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
2445     font-weight:bold;
2446     font-size:1.25em;
2447     text-align: center ;
2448 }
2449
2450 span.abstractrunintitle{
2451     font-family: "URW Classico", Optima, "Linux Biolinum 0",
2452         "Linux Libertine 0", "Liberation Serif", "Nimbus Roman No 9 L",
2453         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
2454     font-weight:bold;
2455 }
2456
2457
2458 .verbatim {
2459     overflow-x: auto ;
2460 }
2461
2462 .alltt {
2463     overflow-x: auto ;
2464 }
2465
2466
2467 .bverbatim {
2468     margin: 1ex 0pt 1ex 0pt ;
2469     padding: .5ex 0pt .5ex 0pt ;
2470     overflow-x: auto ;
2471 }
2472
2473 .lverbatim {
2474     margin: 1ex 0pt 1ex 0pt ;
2475     padding: .5ex 0pt .5ex 0pt ;
2476     overflow-x: auto ;
2477 }
2478
2479 .fancyvrb {
2480     font-size:.85em ;
2481     margin: 3ex 0pt 3ex 0pt
2482 }
2483
2484 .fancyvrblabel {
2485     font-size: .85em ;
2486     text-align: center ;
2487     font-weight: bold ;
2488     margin-top: 1ex ;
2489     margin-bottom: 1ex ;
2490 }
2491
2492
2493 .verse {
2494     font-family: "Linux Libertine Mono 0", "Lucida Console",
2495         "Droid Sans Mono", "DejaVu Mono", "Bitstream Vera Mono",
2496         "Liberation Mono", "FreeMono", "Andale Mono",
2497         "Nimbus Mono L", "Courier New", monospace;
2498     margin-left: 1em ;
```

```
2499 }
2500
2501
2502 div.singlespace { line-height: 1.2 ; }
2503 div.onehalfspace { line-height: 1.5 ; }
2504 div.doublespace { line-height: 2 ; }
2505
2506
2507 /* Word processor format output: */
2508 div.wpfigure { border: 1px solid red ; margin: .5ex ; padding: .5ex ; }
2509 div.wptable { border: 1px solid blue ; margin: .5ex ; padding: .5ex ; }
2510 div.wpminipage { border: 1px solid green ; margin: .5ex ; padding: .5ex ; }
2511
2512
2513
2514
2515 /* Minipage environments, vertically aligned to top, center, bottom: */
2516 .minipage, .fminipage, .fcolorminipage {
2517     /* display: inline-block ; */
2518     /* Mini pages which follow each other will be tiled. */
2519     margin: .25em .25em .25em .25em;
2520     padding: .25em .25em .25em .25em;
2521     display: inline-flex;
2522     flex-direction: column ;
2523     overflow: auto;
2524 }
2525
2526 .inlineminipage {
2527     display: inline-block ;
2528     text-align: left
2529 }
2530
2531 /* Paragraphs in the flexbox did not collapse their margins. */
2532 /* Have not yet researched this. */
2533 .minipage p {margin: .75ex 0em .75ex 0em ;}
2534
2535 .fboxBlock .minipage, .colorbox .minipage, .colorboxBlock .minipage,
2536 .fcolorbox .minipage, .fcolorboxBlock .minipage
2537     {border: none ; background: none;}
2538
2539 .fbox, .fboxBlock { border: 1px solid black ; }
2540
2541 .fbox, .fboxBlock, .fcolorbox, .fcolorboxBlock, .colorbox, .colorboxBlock,
2542 .fminipage, .fcolorminipage
2543     {display: inline-block}
2544
2545 .shadowbox, .shabox {
2546     border: 1px solid black;
2547     box-shadow: 3px 3px 3px #808080 ;
2548     border-radius: 0px ;
2549     padding: .4ex .3em .4ex .3em ;
2550     margin: 0pt .3ex 0pt .3ex ;
2551     display: inline-block ;
2552 }
2553
```

```
2554 .doublebox {
2555     border: 3px double black;
2556     border-radius: 0px ;
2557     padding: .4ex .3em .4ex .3em ;
2558     margin: 0pt .3ex 0pt .3ex ;
2559     display: inline-block ;
2560 }
2561
2562 .ovalbox, .Ovalbox {
2563     border: 1px solid black;
2564     border-radius: 1ex ;
2565     padding: .4ex .3em .4ex .3em ;
2566     margin: 0pt .3ex 0pt .3ex ;
2567     display: inline-block ;
2568 }
2569
2570 .Ovalbox { border-width: 2px ; }
2571
2572 .framebox {
2573     border: 1px solid black;
2574     border-radius: 0px ;
2575     padding: .3ex .2em 0ex .2em ;
2576     margin: 0pt .1ex 0pt .1ex ;
2577     display: inline-block ;
2578 }
2579
2580
2581 .mdframed {
2582     padding: 0ex ;
2583     margin: 2ex 0em 2ex 0em ;
2584 }
2585
2586 .mdframed p { padding: 0ex .5em 0ex .5em ; }
2587
2588 .mdframed dl { padding: 1ex .5em 0ex .5em ; }
2589
2590 .mdframedtitle {
2591     padding: .5ex 0pt 0pt 0pt ;
2592     border-radius: 10pt 10pt 0pt 0pt ;
2593     display: block ;
2594     margin-bottom: 1ex ;
2595 }
2596
2597 .mdframedsubtitle {
2598     display: block ;
2599 }
2600
2601 .mdframedsubsubtitle {
2602     display: block ;
2603 }
2604
2605 .mdtheorem {
2606     padding: 0ex .5em 0ex .5em ;
2607     margin: 3ex 5% 3ex 5% ;
2608 }
```

```
2609
2610
2611 /* framed package */
2612 .framed, pre.boxedverbatim, fcolorbox {
2613     margin: 3ex 0em 3ex 0em ;
2614     border: 1px solid black;
2615     border-radius: 0px ;
2616     padding: .3ex 1em 0ex 1em ;
2617     display: block ;
2618 }
2619
2620 .shaded {
2621     margin: 3ex 0em 3ex 0em ;
2622     padding: .3ex 1em .3ex 1em ;
2623     display: block ;
2624 }
2625
2626 .snugframed {
2627     margin: 3ex 0em 3ex 0em ;
2628     border: 1px solid black;
2629     border-radius: 0px ;
2630     display: block ;
2631 }
2632
2633 .framedleftbar {
2634     margin: 3ex 0em 3ex 0em ;
2635     border-left: 3pt solid black;
2636     border-radius: 0px ;
2637     padding: .3ex .2em .3ex 1em ;
2638     display: block ;
2639 }
2640
2641 .framedtitle {
2642     margin: 0em ;
2643     padding: 0em ;
2644     font-size: 130%
2645 }
2646
2647 .framedtitle p { padding: .3em }
2648
2649
2650 /* For the niceframe package: */
2651
2652 div.niceframe, div.curlyframe, div.artdecoframe, div.generalframe {
2653     padding: 1ex ;
2654     margin: 2ex auto ;
2655     border-radius: 2ex ;
2656 }
2657
2658 div.niceframe {
2659     border: 6px groove black ;
2660 }
2661
2662 div.curlyframe {
2663     border-left: 3px dotted black ;
```

```
2664     border-right: 3px dotted black ;
2665     border-radius: 6ex ;
2666 }
2667
2668 div.artdecoframe {
2669     border-left: 10px double black ;
2670     border-right: 10px double black ;
2671     border-radius: 6ex ;
2672 }
2673
2674 div.generalframe {
2675     border: 6px groove black ;
2676 }
2677
2678
2679
2680 dl {
2681     margin: 1ex 2em 1ex 0em;
2682     line-height: 1.3;
2683 }
2684
2685 dl dt {
2686     display: block ;
2687     float:left ;
2688     font-weight: bold;
2689     padding-right: 1em ;
2690 }
2691
2692 dl dd { display: block ; }
2693
2694 dl dd:after { content: "" ; display: block ; clear: both }
2695
2696 dl dd p { margin-top: 0em; }
2697
2698 dd ul, dd ol, dd dl { clear: both ; padding-top: 1ex }
2699
2700
2701 nav {
2702     font-family: "URW Classico", Optima, "Linux Biolinum O",
2703             "DejaVu Sans", "Bitstream Vera Sans",
2704             Geneva, Verdana, sans-serif ;
2705     margin-bottom: 4ex ;
2706 }
2707
2708 nav p {
2709     line-height: 1.2 ;
2710     margin-top:.5ex ;
2711     margin-bottom:.5ex;
2712     font-size: .9em ;
2713 }
2714
2715
2716
2717 img, img.hyperimage, img.borderimage {
2718     max-width: 600px;
```

```
2719 border: 1px solid silver;
2720 box-shadow: 3px 3px 3px #808080 ;
2721 padding: .5% ;
2722 margin: .5% ;
2723 background: none ;
2724 }
2725
2726 img.inlineimage{
2727 padding: 0px ;
2728 box-shadow: none ;
2729 border: none ;
2730 background: none ;
2731 margin: 0px ;
2732 display: inline-block ;
2733 border-radius: 0px ;
2734 }
2735
2736 img.logoimage{
2737 max-width: 300px ;
2738 box-shadow: 3px 3px 3px #808080 ;
2739 border: 1px solid black ;
2740 background:none ;
2741 padding:0 ;
2742 margin:.5ex ;
2743 border-radius: 10px ;
2744 }
2745
2746
2747 .section {
2748 /*
2749     To have each section float relative to each other:
2750 */
2751 /*
2752     display: block ;
2753     float: left ;
2754     position: relative ;
2755     background: white ;
2756     border: 1px solid silver ;
2757     padding: .5em ;
2758 */
2759     margin: 0ex .5em 0ex .5em ;
2760     padding: 0 ;
2761 }
2762
2763
2764 figure {
2765     margin: 5ex auto 5ex auto ;
2766     padding: 1ex 1em 1ex 1em ;
2767     overflow-x: auto ;
2768 }
2769
2770
2771 /* To automatically center images in figures: */
2772 /*
2773 figure img.inlineimage {
```

```
2774     margin: 0ex auto 0ex auto ;
2775     display: block ;
2776 }
2777 */
2778
2779 /* To automatically center minipages in figures: */
2780 /*
2781 figure div.minipage, figure div.minipage div.minipage {
2782     margin: 1ex auto 1ex auto ;
2783     display: block ;
2784 }
2785 */
2786
2787 figure figure { margin: 0pt }
2788
2789 figure div.minipage p { font-size: 85% ; }
2790
2791 figure.subfigure, figure.subtable {
2792     display: inline-block ; margin: 3ex 1em 3ex 1em ;
2793 }
2794
2795 div.figurecaption .minipage { margin:0 ; padding: 0 }
2796
2797 div.minipage figure { border: none ; box-shadow: none ; }
2798 div.minipage figure.table { margin: 0ex }
2799 div.minipage div.footnotes { margin: 1ex 2em 0ex 2em }
2800
2801 div.floatrow { text-align: center; }
2802
2803 div.floatrow figure { display: inline-block ; margin: 1ex 2% ; }
2804
2805 div.floatfoot { font-size: .85em ;
2806     border-top: 1px solid silver ; line-height: 1.2 ; }
2807
2808 div.figurecaption , .lstlistingtitle {
2809     font-size: .85em ;
2810     text-align: center ;
2811     font-weight: bold ;
2812     margin-top: 1ex ;
2813     margin-bottom: 1ex ;
2814 }
2815
2816 figure.subfigure div.figurecaption, figure.subtable div.figurecaption {
2817     border-bottom: none ; background: none ;
2818 }
2819
2820 div.nonfloatcaption {
2821     margin: 1ex auto 1ex auto ;
2822     font-size: .85em ;
2823     text-align: center ;
2824     font-weight: bold ;
2825 }
2826
2827 /* For a \RawCaption inside a minipage inside a figure's floatrow: */
2828 figure div.floatrow div.minipage div.figurecaption {
```

```
2829     border: none ;
2830     background: none ;
2831 }
2832
2833
2834 /* For packages such as float, rotfloat, and algorithm2e: */
2835
2836 figure.boxed, figure.boxruled {
2837     border: 1px solid black ;
2838 }
2839
2840 figure.ruled {
2841     border-top: 1px solid black ;
2842     border-bottom: 1px solid black ;
2843     border-left: 0px ;
2844     border-right: 0px ;
2845     border-radius: 0px ;
2846     background: none ;
2847     box-shadow: none ;
2848 }
2849
2850 figure.ruled div.figurecaption, figure.boxruled div.figurecaption {
2851     border-top: 1px solid silver ;
2852     border-bottom: 1px solid silver ;
2853 }
2854
2855
2856 table {
2857     margin: 1ex auto 1ex auto ;
2858     border-collapse: separate ;
2859     border-spacing: 0px ;
2860     line-height: 1.3 ;
2861 }
2862
2863 table > tbody > tr.hline > td {border-top: 1px solid #808080 ; margin-top: 0ex ;
2864     margin-bottom: 0ex ; } /* for \hline */
2865
2866 tr.tbrule td {border-top: 1px solid black ; margin-top: 0ex ;
2867     margin-bottom: 0ex ; } /* for \toprule, \bottomrule */
2868
2869 td {padding: .5ex .5em .5ex .5em ;}
2870
2871 table td.tdl { text-align: left ; vertical-align: middle ; }
2872 table td.tdc { text-align: center ; vertical-align: middle ; }
2873 table td.tdat { text-align: center ; vertical-align: middle ; padding: 0px ; margin: 0px ; }
2874 table td.tdbang { text-align: center ; vertical-align: middle ; }
2875 table td.tdr { text-align: right ; vertical-align: middle ; }
2876 table td.tdp { text-align: left ; vertical-align: bottom ; }
2877 table td.tdm { text-align: left ; vertical-align: middle ; }
2878 table td.tdb { text-align: left ; vertical-align: top ; }
2879 table td.tdP { text-align: center ; vertical-align: bottom ; }
2880 table td.tdM { text-align: center ; vertical-align: middle ; }
2881 table td.tdB { text-align: center ; vertical-align: top ; }
2882
2883 table td.tvertbarl { border-left: 1px solid black }
```

```
2884 table td.tvertbarldouble { border-left: 4px double black }
2885 table td.tvertbarr { border-right: 1px solid black }
2886 table td.tvertbarrdouble { border-right: 4px double black }
2887
2888 table td.tvertbarldash { border-left: 1px dashed black }
2889 table td.tvertbarldoubledash { border-left: 2px dashed black }
2890 table td.tvertbarrdash { border-right: 1px dashed black }
2891 table td.tvertbarrdoubledash { border-right: 2px dashed black }
2892
2893
2894 /* for cmidrules: */
2895 table td.tdrule {
2896     border-top: 1px solid #A0A0A0 ;
2897 }
2898
2899 table td.tdrulel {
2900     border-top-left-radius:.5em ;
2901     border-top: 1px solid #A0A0A0 ;
2902 }
2903
2904 table td.tdruler {
2905     border-top-right-radius:.5em ;
2906     border-top: 1px solid #A0A0A0 ;
2907 }
2908
2909 table td.tdrulelr {
2910     border-top-left-radius:.5em ;
2911     border-top-right-radius:.5em ;
2912     border-top: 1px solid #A0A0A0 ;
2913 }
2914
2915
2916 /* Margins of paragraphs inside table cells: */
2917 td.tdp p , td.tdprule p , td.tdP p , td.tdPrule p { padding-top: 1ex ;
2918     padding-bottom: 1ex ; margin: 0ex ; }
2919 td.tdm p , td.tmbrule p , td.tdM p , td.tdMrule p { padding-top: 1ex ;
2920     padding-bottom: 1ex ; margin: 0ex ; }
2921 td.tdb p , td.tdbrule p , td.tdB p , td.tdBrule p { padding-top: 1ex ;
2922     padding-bottom: 1ex ; margin: 0ex ; }
2923
2924 td.tdp , td.tdprule , td.tdP , td.tdPrule
2925     { padding: 0ex .5em 0ex .5em ; }
2926 td.tdm , td.tdmrule , td.tdM , td.tdMrule
2927     { padding: 0ex .5em 0ex .5em ; }
2928 td.tdb , td.tdbrule , td.tdB , td.tdBrule
2929     { padding: 0ex .5em 0ex .5em ; }
2930
2931
2932 /* table notes: */
2933 .tnotes {
2934     margin: 0ex 5% 1ex 5% ;
2935     padding: 0.5ex 1em 0.5ex 1em;
2936     font-size:.80em;
2937     text-align: left ;
2938 }
```

```
2939
2940 .minipage .tnotes {
2941     margin: 0pt ;
2942     padding: 0pt ;
2943 }
2944
2945 .tnotes dl dt p {margin-bottom:0px;}
2946
2947 .tnoteitemheader {margin-right: 1em;}
2948
2949
2950 /* for colortbl and cell color */
2951 div.cellcolor {
2952     width: 100% ;
2953     padding: .5ex .5em .5ex .5em ;
2954     margin: -.5ex -.5em -.5ex -.5em ;
2955 }
2956
2957
2958 /* for lyluatex */
2959 span.lyluatex {
2960     display: inline-block ;
2961 }
2962
2963 div.lyluatex p span.lateximagesource img {
2964     display: block ;
2965     margin-top: 3ex ;
2966     margin-bottom: 3ex ;
2967 }
2968
2969
2970 /* for bigdelim */
2971 .ldelim, .rdelim { font-size: 200% }
2972
2973
2974 /* center, flushleft, flushright environments */
2975 div.center{text-align:center;}
2976 div.center table {margin-left:auto;margin-right:auto;}
2977 div.flushleft{text-align:left;}
2978 div.flushleft table {margin-left:0em ; margin-right:auto;}
2979 div.flushright{text-align:right;}
2980 div.flushright table {margin-left:auto ; margin-right: 0em ;}
2981
2982
2983 /* Fancybox */
2984 div.Btrivlist table tr td {
2985     padding: .2ex 0em ;
2986 }
2987
2988
2989 /* program listing callouts: */
2990 span.callout {
2991     font-family: "DejaVu Sans", "Bitstream Vera Sans",
2992             Geneva, Verdana, sans-serif ;
2993     border-radius: .5em;
```

```
2994     background-color:black;
2995     color:white;
2996     padding:0px .25em 0px .25em;
2997     margin: 0 ;
2998     font-weight: bold;
2999     font-size:.72em ;
3000 }
3001
3002 div.programlisting pre.verbatim span.callout{
3003     font-size: .85em ;
3004 }
3005
3006 span.verbatim {
3007     font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
3008         "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
3009         "Courier New", monospace;
3010 }
3011
3012
3013
3014 div.published
3015 {
3016     text-align: center ;
3017     font-variant: normal ;
3018     font-style: italic ;
3019     font-size: 1em ;
3020     margin: 1ex 0em 1ex 0em ;
3021 }
3022
3023 div.subtitle
3024 {
3025     text-align: center ;
3026     font-variant: normal ;
3027     font-style: italic ;
3028     font-size: 1.25em ;
3029     margin: 1ex 0em 1ex 0em ;
3030 }
3031
3032 div.subtitle p { margin: 1ex ; }
3033
3034 div.author
3035 {
3036     font-variant: normal ;
3037     font-style: normal ;
3038     font-size: 1em ;
3039     margin: 1ex 0em 1ex 0em ;
3040 }
3041
3042 div.oneauthor {
3043     display: inline-block ;
3044     margin: 0ex 1em 0ex 1em ;
3045 }
3046
3047 /*
3048 div.author table {
```

```
3049     margin: 1ex auto 0ex auto ;
3050     background: none ;
3051 }
3052
3053 div.author table tbody tr td { padding: .25ex ; }
3054 */
3055
3056 span.affiliation {font-size: .85em ; font-variant: small-caps; }
3057
3058 div.titledate {
3059     text-align: center ;
3060     font-size: .85em ;
3061     font-style: italic;
3062     margin: 1ex 0em 1ex 0em ;
3063 }
3064
3065
3066 nav.topnavigation{
3067     text-align: left ;
3068     padding: 0.5ex 1em 0.5ex 1em ;
3069 /*     margin: 2ex 0em 3ex 0em ; */
3070     margin: 0 ;
3071     border-bottom: 1px solid silver ;
3072     border-top: 1px solid silver ;
3073     clear:both ;
3074 }
3075
3076 nav.botnavigation{
3077     text-align: left ;
3078     padding: 0.5ex 1em 0.5ex 1em ;
3079 /*     margin: 3ex 0em 2ex 0em ; */
3080     margin: 0 ;
3081     border-top: 1px solid silver ;
3082     border-bottom: 1px solid silver ;
3083     clear:both ;
3084 }
3085
3086
3087 header {
3088     line-height: 1.2 ;
3089     font-size: 1em ;
3090     border-bottom: 1px solid silver ;
3091     margin: 0px ;
3092     padding: 2ex 1em 2ex 1em ;
3093     text-align:left ;
3094 }
3095
3096
3097 footer {
3098     font-size: .85em ;
3099     line-height: 1.2 ;
3100     margin-top: 1ex ;
3101     border-top: 1px solid silver ;
3102     padding: 2ex 1em 2ex 1em ;
3103     clear:both ;
```

```
3104     text-align:left ;
3105 }
3106
3107
3108 a.linkhome { font-weight:bold ; font-size: 1em ;}
3109
3110
3111 div.lateximagesource { padding: 0px ; margin: 0px ; display: none; }
3112
3113 img.lateximage{
3114     padding: 0pt ;
3115     margin: 0pt ;
3116     box-shadow: none ;
3117     border: none ;
3118     background: none ;
3119     max-width: 100% ;
3120     border-radius: 0ex ;
3121     border: none ;
3122 }
3123
3124
3125 /* The -1px right margin compensates for the 1px right border. */
3126 /* Without this -1px margin, the body container appears below instead */
3127 /* of floating to the side. */
3128 div.sidetoccontainer {
3129     font-family: "DejaVu Serif", "Bitstream Vera Serif",
3130             "Lucida Bright", Georgia, serif;
3131     float: left ;
3132     width: 20%;
3133     margin: 0pt -1px 3ex 0pt ;
3134     border-right: 1px solid silver;
3135     border-bottom: 1px solid silver;
3136     background: #FAF7F4 ;
3137     font-size:.9em ;
3138     border-radius: 0px 0px 20px 0px ;
3139 }
3140
3141 div.sidetoccocontents {
3142     overflow-y: auto ;
3143     width: 100% ;
3144     text-align: left ;
3145 }
3146
3147
3148 nav.sidetoc p {line-height:1.2 ; margin: 1ex .5em 1ex .5em ;
3149     text-indent: 0 ; }
3150
3151 nav.sidetoc p a {color:black ; font-size: .7em ;}
3152
3153 div.sidetotitle {font-size: 1.2em; font-weight:bold; text-align:center;
3154     border-bottom: 1px solid silver ;    }
3155
3156 nav.sidetoc a:hover {text-decoration: underline ; }
3157
3158
```

```
3159
3160 section.textbody { margin: 0ex 1em 0ex 1em ;}
3161
3162
3163 div.multicolsheading { -webkit-column-span: all;
3164     -moz-column-span: all; column-span: all; }
3165 div.multicols { -webkit-columns: 3 380px ;
3166     -moz-columns: 3 380px ; columns: 3 380px ; }
3167 div.multicols p {margin-top: 0ex}
3168
3169
3170 /* Used for xfrac and nicefrac: */
3171 span.numerator {
3172     font-size: 60% ;
3173     vertical-align: .4em ;
3174 }
3175
3176 span.denominator {
3177     font-size: 60%
3178 }
3179
3180
3181 /* Used for algorithm2e: */
3182 div.alg2evline{
3183     margin-left: 1em ;
3184     padding-left: 1em ;
3185     border-left: 1px solid black ;
3186     border-radius: 0px 0px 0px 1ex ;
3187 }
3188
3189 div.alg2evsline{
3190     margin-left: 1em ;
3191     padding-left: 1em ;
3192     border-left: 1px solid black ;
3193 }
3194
3195 div.alg2enoline{
3196     margin-left: 1em ;
3197     padding-left: 1em ;
3198 }
3199
3200 span.alg2elinenumber{
3201     margin-right: .5em ;
3202     font-size: 50% ;
3203     color: red ;
3204 }
3205
3206
3207 /* Used for algorithmicx: */
3208 span.floatright { float: right ; }
3209
3210
3211 /* keyfloat and tocdata: */
3212 .floatnotes {
3213     margin: 0ex 5% 0ex 5% ;
```

```
3214     padding: 0ex 1em 0ex 1em ;
3215     font-size:.80em ;
3216     text-align: left ;
3217 }
3218
3219 .authorartist{
3220     display:block ;
3221     font-size:.70em ;
3222     font-style: italic;
3223 }
3224
3225 nav .authorartist{ display:inline; }
3226
3227
3228
3229 /* Native LaTeX theorems: */
3230
3231 .theoremcontents { font-style: italic; margin-top: 3ex ; margin-bottom: 3ex ; }
3232 .theoremlabel { font-style: normal; font-weight: bold ; margin-right: .5em ; }
3233
3234
3235 /* theorem, amsthm, and ntheorem packages */
3236
3237 span.theoremheader,
3238 span.theoremheaderplain,
3239 span.theoremheaderdefinition,
3240 span.theoremheaderbreak,
3241 span.theoremheadermarginbreak,
3242 span.theoremheaderchangebreak,
3243 span.theoremheaderchange,
3244 span.theoremheadermargin
3245 {
3246     font-style:normal ; font-weight: bold ; margin-right: 1em ;
3247 }
3248
3249 span.amsthmnameplain,
3250 span.amsthmnamedefinition,
3251 span.amsthmnumberplain,
3252 span.amsthmnumberdefinition
3253 {
3254     font-style:normal ; font-weight: bold ;
3255 }
3256
3257
3258 span.amsthmnameremark,
3259 span.amsthmnumberremark
3260 {font-style:italic ; font-weight: normal ; }
3261
3262
3263 span.amsthmnoteplain,
3264 span.amsthmnotedefinition
3265 {font-style:normal ;}
3266
3267
3268 span.theoremheaderremark,
```

```
3269 span.theoremheaderproof,
3270 span.amsthmproofname
3271 {font-style:italic ; font-weight: normal ; margin-right: 1em ; }
3272
3273 span.theoremheadersc
3274 {
3275     font-style:normal ;
3276     font-variant: small-caps ;
3277     font-weight: normal ;
3278     margin-right: 1em ;
3279 }
3280
3281 .theoremendmark {float:right}
3282
3283 div.amsthmbodyplain, div.theorembodyplain, div.theorembodynonumberplain,
3284 div.theorembodybreak, div.theorembodynonumberbreak,
3285 div.theorembodymarginbreak,
3286 div.theorembodychangebreak,
3287 div.theorembodychange,
3288 div.theorembodymargin
3289 {
3290     font-style:italic;
3291     margin-top: 3ex ; margin-bottom: 3ex ;
3292 }
3293
3294 div.theorembodydefinition, div.theorembodyremark, div.theorembodyproof,
3295 div.theorembodyplainupright, nonumberplainuprightsc,
3296 div.amsthmbodydefinition, div.amsthmbodyremark,
3297 div.amsthmproof
3298 {
3299     font-style: normal ;
3300     margin-top: 3ex ; margin-bottom: 3ex ;
3301 }
3302
3303 span.amsthmnoteremark {}
3304
3305
3306 /* For the backnaur package: */
3307 div.backnaur {
3308     display: block ;
3309     margin: 2ex 2em 2ex 2em ;
3310 }
3311
3312 div.backnaur p {
3313     margin: .25ex 0ex .25ex 0ex ;
3314 }
3315
3316 div.backnaurprod {
3317     display: inline-block ;
3318     min-width: 8em ;
3319     text-align:right ;
3320 }
3321
3322 div.backnaurdesc {
3323     display: inline-block ;
```

```
3324 }
3325
3326
3327 /* For the notes package: */
3328 div.notesimportantnote, div.noteswarningnote, div.notesinformationnote {
3329     clear: both ;
3330     margin: 2ex 2em 2ex 2em ;
3331     border: 1px solid silver ;
3332 }
3333
3334 div.notesicon {
3335     float:left ;
3336     display: inline-block ;
3337     background: gold ;
3338     padding: 0ex 1em 0ex 1em ;
3339     margin-right: 1em ;
3340     font-weight: bold ;
3341 }
3342
3343 div.notescontents { font-style: italic }
3344
3345
3346 /* nolbreaks package: */
3347 span.nolbreaks { white-space: nowrap ; }
3348
3349
3350 /*
3351 For CSS LaTeX and related logos:
3352 Based on spacing demonstrated by the metafont package.
3353 */
3354
3355 .latexlogofont {
3356     font-family: "Linux Libertine O", "Nimbus Roman No 9 L",
3357             "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3358     font-variant: normal ;
3359 }
3360
3361 .latexlogo {
3362     font-family: "Linux Libertine O", "Nimbus Roman No 9 L",
3363             "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3364     font-size: 1.1em;
3365 }
3366
3367 .latexlogosup {
3368     text-transform: uppercase;
3369     letter-spacing: .03em ;
3370     font-size: 0.7em;
3371     vertical-align: 0.25em;
3372     margin-left: -0.4em;
3373     margin-right: -0.15em;
3374 }
3375
3376 .latexlogosub {
3377     text-transform: uppercase;
3378     vertical-align: -0.27ex;
```

```
3379 margin-left: -0.08em;
3380 margin-right: -0.07em;
3381 font-size: 1em;
3382 }
3383
3384 .latexlogotwoe {
3385 text-transform: none ;
3386 font-variant-numeric: oldstyle-nums ;
3387 }
3388
3389 .latexlogotwoesub {
3390 font-style:italic ;
3391 vertical-align: -0.27ex;
3392 margin-left: -0.11em;
3393 margin-right: -0.1em;
3394 font-size: 1em;
3395 }
3396
3397 .xelatexlogo {
3398 font-family: "Linux Libertine O", "Nimbus Roman No 9 L",
3399 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3400 letter-spacing: .03em ;
3401 font-size: 1.1em;
3402 }
3403
3404 .xelatexlogosub {
3405 vertical-align: -0.27ex;
3406 margin-left: -0.0667em;
3407 margin-right: -.05em;
3408 font-size: 1em;
3409 letter-spacing: .03em ;
3410 }
3411
3412 .amslogo {
3413 font-family: "TeXGyreChorus","URW Chancery L",
3414 "Apple Chancery", "ITC Zapf Chancery", "Monotype Corsiva",
3415 "Linux Libertine O", "Nimbus Roman No 9 L", "FreeSerif",
3416 "Hoefler Text", Times, "Times New Roman", serif ;
3417 font-style: italic ;
3418 }
3419
3420 .lyxlogo {
3421 font-family: "URW Classico", Optima, "Linux Biolinum 0",
3422 "DejaVu Sans", "Bitstream Vera Sans", Geneva,
3423 Verdana, sans-serif ;
3424 }
3425
3426
3427 /* Only display top and bottom navigation if a small screen: */
3428 /* Hide the sidetoc if a small screen: */
3429 nav.topnavigation { display:none; }
3430 nav.botnavigation { display:none; }
3431
3432 /* Only display the sidetoc's webpage title if a small screen */
3433 span.sidetocthetitle { display: none }
```

```
3434
3435 @media screen and (max-width: 50em) {
3436     div.sidetoccontainer {
3437         float: none ;
3438         width: 100% ;
3439         padding: 0 ;
3440         border-radius: 0 ;
3441         border-bottom: 1px solid black ;
3442         border-top: 1px solid black ;
3443         box-shadow: none ;
3444     }
3445     span.sidetothetitle { display: inline }
3446     nav.topnavigation { display:block }
3447     div.bodycontainer { width: 100% }
3448     .marginpar {
3449         max-width: 100%;
3450         float: none;
3451         display:block ;
3452         margin: 1ex 1em 1ex 1em ;
3453     }
3454 }
3455
3456 @media print {
3457     body {
3458         font-family: "Linux Libertine O",
3459         "DejaVu Serif", "Bitstream Vera Serif",
3460         "Liberation Serif", "Nimbus Roman No 9 L",
3461         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3462     }
3463     div.sidetoccontainer { display:none; }
3464     nav.topnavigation { display: none; }
3465     nav.botnavigation { display: none; }
3466     div.bodycontainer { width: 100% }
3467 }
3468
3469 @media handheld {
3470     div.sidetoccontainer { display:none; }
3471     nav.topnavigation { display:block }
3472     nav.botnavigation { display:block }
3473     div.bodycontainer { width: 100% }
3474 }
3475
3476 @media projection {
3477     div.sidetoccontainer { display:none; }
3478     nav.topnavigation { display:block }
3479     nav.botnavigation { display:block }
3480     div.bodycontainer { width: 100% }
3481 }
3482 \end{filecontents*}
3483 % \end{Verbatim}%
3484 \end{LWRwriteconf}
```

40.5 lwarp_sagebrush.css

File lwarp_sagebrush.css An optional css which may be used for a semi-modern appearance.

If used, this must be present both when compiling the project and also when distributing the HTML files.

```
Config file: 3485 \begin{LWRwriteconf}
3486 \begin{filecontents*}[overwrite]{lwarp_sagebrush.css}
3487 @import url("lwarp.css") ;
3488
3489
3490 A:link {color:#105030 ; text-decoration: none ; }
3491 A:visited {color:#705030 ; text-shadow:1px 1px 2px #a0a0a0;}
3492 A:hover {color:#006000 ; text-decoration: underline ; text-shadow:0px 0px 2px #a0a0a0;}
3493 A:active {color:#00C000 ; text-shadow:1px 1px 2px #a0a0a0;}
3494
3495
3496
3497 div.book, h1, h2, h3, h4, h5, h6, span.paragraph, span subparagraph
3498 {
3499     font-family: "URW Classico", Optima, "Linux Biolinum 0",
3500             "Linux Libertine 0", "Liberation Serif",
3501             "Nimbus Roman No 9 L", "FreeSerif",
3502             "Hoefler Text", Times, "Times New Roman", serif;
3503     font-variant: small-caps ;
3504     font-weight: normal ;
3505     color: #304070 ;
3506     text-shadow: 2px 2px 3px #808080;
3507 }
3508
3509 h1 { /* title of the entire website, used on each page */
3510     font-variant: small-caps ;
3511     color: #304070 ;
3512     text-shadow: 2px 2px 3px #808080;
3513     background-color: #F7F7F0 ;
3514     background-image: linear-gradient(to bottom, #F7F7F0, #C0C0C4);
3515 }
3516
3517 h1 {
3518     border-bottom: 1px solid #304070;
3519 /* border-top: 2px solid #304070; */
3520 }
3521
3522 h2 {
3523     border-bottom: 1px solid #304070;
3524 /* border-top: 2px solid #304070; */
3525     background-color: #F7F7F0 ;
3526     background-image: linear-gradient(to bottom, #F7F7F0, #DAD0C0);
3527 }
3528
3529
3530
3531 div.abstract {
3532     background: #f5f5eb ;
```

```
3533     background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);  
3534  
3535     border: 1px solid silver;  
3536     border-radius: 1em ;  
3537 }  
3538  
3539 div.abstract dl {line-height:1.5;}  
3540 div.abstract dt {color:#304070;}  
3541  
3542 div.abstracttitle{  
3543     font-family: "URW Classico", Optima, "Linux Biolinum 0",  
3544         "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",  
3545         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;  
3546     font-weight:bold;  
3547     font-variant: small-caps ;  
3548     font-size:1.5em;  
3549     border-bottom: 1px solid silver ;  
3550     color: #304070 ;  
3551     text-align: center ;  
3552     text-shadow: 1px 1px 2px #808080;  
3553 }  
3554  
3555 span.abstractrunintitle{  
3556     font-family: "URW Classico", Optima, "Linux Biolinum 0",  
3557         "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",  
3558         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;  
3559     font-weight:bold;  
3560 }  
3561  
3562  
3563 div.epigraph, div.dictum {  
3564     background: #f5f5eb ;  
3565     background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);  
3566  
3567     border: 1px solid silver ;  
3568     border-radius: 1ex ;  
3569     box-shadow: 3px 3px 3px #808080 ;  
3570 }  
3571  
3572  
3573 .example {  
3574     background-color: #f5f5eb ;  
3575     background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);  
3576  
3577 }  
3578  
3579 div.exampletitle{  
3580     font-family: "URW Classico", Optima, "Linux Biolinum 0",  
3581         "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",  
3582         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;  
3583     font-weight:bold;  
3584     font-variant: small-caps ;  
3585     border-bottom: 1px solid silver ;  
3586     color: #304070 ;  
3587     text-align: center ;
```

```
3588     text-shadow: 1px 1px 2px #808080;
3589 }
3590
3591
3592 .sidebar {
3593     background-color: #f5f5eb ;
3594     background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
3595
3596 }
3597
3598 div.sidebarTitle{
3599     font-family: "URW Classico", Optima, "Linux Biolinum O",
3600         "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
3601         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3602     font-weight:bold;
3603     font-variant: small-caps ;
3604     border-bottom: 1px solid silver ;
3605     color: #304070 ;
3606     text-align: center ;
3607     text-shadow: 1px 1px 2px #808080;
3608 }
3609
3610
3611 .fancyvrblabel {
3612     font-family: "URW Classico", Optima, "Linux Biolinum O",
3613         "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
3614         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3615     font-weight:bold;
3616     font-variant: small-caps ;
3617     font-size: 1.5em ;
3618     color: #304070 ;
3619     text-align: center ;
3620     text-shadow: 1px 1px 2px #808080;
3621 }
3622
3623 div.minipage {
3624     background-color: #eeeeee7 ;
3625     border: 1px solid silver ;
3626     border-radius: 1ex ;
3627 }
3628
3629 table div.minipage { background: none ; border: none ; }
3630
3631 div.framebox div.minipage {border:none ; background:none}
3632
3633 section.textbody > div.minipage {
3634     box-shadow: 3px 3px 3px #808080 ;
3635 }
3636
3637 div.fboxBlock div.minipage { box-shadow: none ; }
3638
3639 .framed .minipage , .framedleftbar .minipage {
3640     border: none ;
3641     background: none ;
3642     padding: 0ex ;
```

```
3643     margin: 0ex ;
3644 }
3645
3646 figure.figure .minipage, div.figurecaption .minipage { border: none; }
3647
3648 div.marginblock div.minipage ,
3649 div.marginparblock div.minipage
3650     { border: none; }
3651
3652 figure , div.marginblock {
3653     background-color: #eeeeee7 ;
3654     border: 1px solid silver ;
3655     border-radius: 1ex ;
3656     box-shadow: 3px 3px 3px #808080 ;
3657 }
3658
3659 figure figure {
3660     border: 1px solid silver ;
3661     margin: 0em ;
3662     box-shadow: none ;
3663 }
3664
3665 /*
3666 div.figurecaption {
3667     border-top: 1px solid silver ;
3668     border-bottom: 1px solid silver ;
3669     background-color: #e8e8e8 ;
3670 }
3671 */
3672
3673
3674 div.table {
3675     box-shadow: 3px 3px 3px #808080 ;
3676 }
3677
3678 /*
3679 .tnotes {
3680     background: #e8e8e8;
3681     border: 1px solid silver;
3682 }
3683 */
3684
3685
3686 nav.topnavigation{
3687     background-color: #b0b8b0 ;
3688     background-image: linear-gradient(to bottom,#e0e0e0,#b0b8b0) ;
3689 }
3690
3691 nav.botnavigation{
3692     background-color: #b0b8b0 ;
3693     background-image: linear-gradient(to top,#e0e0e0,#b0b8b0) ;
3694 }
3695
3696
3697
```

```
3698 header{  
3699     background-color: #F7F7F0 ;  
3700     background-image: linear-gradient(to top, #F7F7F0, #b0b8b0);  
3701 }  
3702  
3703 footer{  
3704     background-color: #F7F7F0 ;  
3705     background-image: linear-gradient(to bottom, #F7F7F0, #b0b8b0);  
3706 }  
3707  
3708  
3709  
3710 div.sidetoccontainer {  
3711     background-color: #F7F7F0 ;  
3712     background-image: linear-gradient(to bottom, #F7F7F0, #C0C0C0);  
3713     box-shadow: 3px 3px 3px #808080 ;  
3714 }  
3715  
3716 div.sidetotitle {color: #304070 ; }  
3717  
3718 nav.sidetoc a:hover {  
3719     color:#006000 ;  
3720     text-decoration: none ;  
3721     text-shadow:0px 0px 2px #a0a0a0;  
3722 }  
3723  
3724  
3725 @media screen and (max-width: 45em) {  
3726     div.sidetoccontainer { border-radius: 0 ; }  
3727 }  
3728  
3729  
3730 \end{filecontents*}  
3731 % \end{Verbatim}% for syntax highlighting  
3732 \end{LWRwriteconf}
```

40.6 lwarp_formal.css

File lwarp_formal.css An optional css which may be used for a more formal appearance.

If used, this must be present both when compiling the project and also when distributing the HTML files.

Config file:

```
3733 \begin{LWRwriteconf}  
3734 \begin{filecontents*}[overwrite]{lwarp_formal.css}  
3735 @import url("lwarp.css") ;  
3736  
3737  
3738  
3739 A:link {color:#802020 ; text-decoration:none; }  
3740 A:visited {color:#802020 ; text-decoration:none ;}  
3741 A:hover {color:#400000 ; text-decoration:none ;}  
3742 A:active {color:#C00000 ; text-decoration:none ;}  
3743
```

```
3744
3745 body {
3746     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
3747         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
3748         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
3749         "Times New Roman", serif;
3750     background: #fffcf5;
3751 }
3752
3753 span.textrm {
3754     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
3755         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
3756         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
3757         "Times New Roman", serif;
3758 }
3759
3760 span.textsf {
3761     font-family: "DejaVu Sans", "Bitstream Vera Sans",
3762         Geneva, Verdana, sans-serif ;
3763 }
3764
3765
3766
3767 div.book, h1, h2, h3, h4, h5, h6, span.paragraph, span.subparagraph
3768 {
3769     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
3770         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
3771         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
3772         "Times New Roman", serif;
3773     color: #800000 ;
3774     text-shadow: none ;
3775 }
3776
3777 h1, h2 {
3778     background-color: #fffcf5 ;
3779     background-image: none ;
3780     border-bottom: 1px solid #808080;
3781 /*     border-top: 2px solid #808080; */
3782 }
3783
3784 div.abstracttitle {
3785     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
3786         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
3787         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
3788         "Times New Roman", serif;
3789     color: black ;
3790     text-shadow: none ;
3791 }
3792
3793 span.abstractrunintitle {
3794     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
3795         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
3796         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
3797         "Times New Roman", serif;
3798     color: black ;
```

```
3799     text-shadow: none ;
3800 }
3801
3802 div.abstract { font-size: 100% }
3803
3804 .sidebar {
3805     background: #ffffcf;
3806     background-image: none ;
3807     margin: 2em 5% 2em 5%;
3808     padding: 0.5em 1em;
3809     border: none ;
3810     border-top : 1px solid silver;
3811     border-bottom : 1px solid silver;
3812     font-size: 90% ;
3813 }
3814
3815 div.sidebartitle{
3816     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
3817         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
3818         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
3819         "Times New Roman", serif;
3820     color: #800000 ;
3821     text-shadow: none ;
3822     border: none ;
3823 }
3824
3825 .example {
3826     background: #ffffcf;
3827     background-image: none ;
3828     margin: 2em 5% 2em 5%;
3829     padding: 0.5em 1em;
3830     border: none ;
3831     border-top : 1px solid silver;
3832     border-bottom : 1px solid silver;
3833 }
3834
3835 div.exampletitle{
3836     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
3837         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
3838         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
3839         "Times New Roman", serif;
3840     color: #800000 ;
3841     text-shadow: none ;
3842     border: none ;
3843 }
3844
3845 div.fancyvrblabel{
3846     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
3847         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
3848         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
3849         "Times New Roman", serif;
3850     color: #800000 ;
3851     text-shadow: none ;
3852     border: none ;
3853 }
```

```
3854
3855
3856
3857 figure {
3858     margin: 5ex 5% 5ex 5% ;
3859     padding: 1ex 1em 1ex 1em ;
3860     background-color: #ffffcf5 ;
3861     overflow-x: auto ;
3862     border: none ;
3863 /*     border-top: 1px solid silver; */
3864 /*     border-bottom: 1px solid silver; */
3865 }
3866
3867
3868 div.figurecaption , .lstlisting {
3869     border: none ;
3870 /*     border-top: 1px solid silver ; */
3871 /*     border-bottom: 1px solid silver ; */
3872     background-color: #ffffcf5 ;
3873 }
3874
3875 .tnotes {
3876     background: #ffffcf5 ;
3877     border-top: 1px solid silver ;
3878     border-bottom: 1px solid silver ;
3879 }
3880
3881 .theorem {
3882     background: none ;
3883 }
3884
3885 .minipage {
3886     background-color: #ffffcf5 ;
3887     border: none ;
3888 }
3889
3890 div.floatrow figure { border: none ; }
3891
3892 figure figure { border: none ; }
3893
3894
3895 nav.toc, nav.lof, nav.lot, nav.lol {
3896     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
3897                 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
3898                 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
3899                 "Times New Roman", serif;
3900 }
3901
3902 div.sidetoccontainer {
3903     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
3904                 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
3905                 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
3906                 "Times New Roman", serif;
3907     background-image: linear-gradient(to bottom, #ffffcf5, #C0C0C0);
3908 }
```

```
3909
3910 div.sidetoctitle{
3911     color: #800000 ;
3912 }
3913
3914 header{
3915     background-color: #e0e0e0 ;
3916     background-image: linear-gradient(to top, #ffffcf5, #b0b0b0);
3917     text-align:center ;
3918 }
3919
3920 footer{
3921     background-color: #e0e0e0 ;
3922     background-image: linear-gradient(to bottom, #ffffcf5, #b0b0b0);
3923     padding: 2ex 1em 2ex 1em ;
3924     text-align:left ;
3925 }
3926
3927 nav.botnavigation {
3928     background: #dedcd5 ;
3929     border-top: 1px solid black ;
3930 }
3931 \end{filecontents*}
3932 % \end{Verbatim}% for syntax highlighting
3933 \end{LWRwriteconf}
```

40.7 sample_project.css

File sample_project.css The project-specific css file. Use with \CSSFilename.

If used, this must be present both when compiling the project and also when distributing the HTML files.

Config file:

```
3934 \begin{LWRwriteconf}
3935 \begin{filecontents*}[overwrite]{sample_project.css}
3936 /* ( --- Start of project.css --- ) */
3937 /* ( --- A sample project-specific CSS file for lwarp --- ) */
3938
3939 /* Uncomment one of the following: */
3940 @import url("lwarp.css") ;
3941 /* @import url("lwarp_formal.css") ; */
3942 /* @import url("lwarp_sagebrush.css") ; */
3943
3944 /* Project-specific CSS setting follow here. */
3945 /* . . . */
3946
3947 /* ( --- End of project.css --- ) */
3948 \end{filecontents*}
3949 % \end{Verbatim}% for syntax highlighting
3950 \end{LWRwriteconf}
```

40.8 lwarf.ist

File lwarf.ist Used to modify the index for lwarf.

This must be present when compiling the project, but does not need to be present when distributing the resulting HTML files.

The page_compositor line is for memoir's \specialindex.

```
Config file: 3951 \begin{LWRwriteconf}
3952 \begin{filecontents*}[overwrite]{lwarf.ist}
3953 preamble
3954 "\\begin{theindex}
3955 \\providecommand*\\lettergroupDefault[1]{}%
3956 \\providecommand*\\lettergroup[1]{%
3957     \\par\\textbf{\#1}\\par
3958     \\nopagebreak
3959 }
3960 "
3961 headings_flag 1
3962 heading_prefix "
3963 \\lettergroup{"
3964 heading_suffix "}"
3965 delim_0 ", \\hyperindexref{"
3966 delim_1 ", \\hyperindexref{"
3967 delim_2 ", \\hyperindexref{"
3968 delim_n "}, \\hyperindexref{"
3969 delim_r "} -- \\hyperindexref{"
3970 delim_t "}"
3971 page_compositor "."
3972 \end{filecontents*}
3973 % \end{Verbatim} for syntax highlighting
3974 \end{LWRwriteconf}
```

40.9 lwarf.xdy

File lwarf.xdy Used to modify the index for lwarf.

This must be present when compiling the project, but does not need to be present when distributing the resulting HTML files.

See:

[https://tex.stackexchange.com/questions/80300/
how-can-i-convince-hyperref-and-xindy-to-play-together-nicely](https://tex.stackexchange.com/questions/80300/how-can-i-convince-hyperref-and-xindy-to-play-together-nicely)

```
Config file: 3975 \begin{LWRwriteconf}
3976 \begin{filecontents*}[overwrite]{lwarf.xdy}
3977 (require "tex/inputenc/latin.xdy")
3978 (merge-rule "\\PS *" "Postscript")
3979 (require "texindy.xdy")
3980 (require "page-ranges.xdy")
3981 (require "book-order.xdy")
3982 (define-location-class "arabic-page-numbers"
```

```

3983     ("arabic-numbers") :min-range-length 1)
3984 (require "makeindex.xdy")
3985 (define-attributes (("hyperindexref")))
3986 (markup-locref :open "\hyperindexref{" :close "}")
3987 (markup-locref :open "\hyperindexref{" :close "}" :attr "hyperpage")
3988 (markup-locref :open "\textbf{\hyperindexref{" :close "}}" :attr "textbf")
3989 (markup-locref :open "\textit{\hyperindexref{" :close "}}" :attr "textit")
3990 (define-location-class-order ("roman-page-numbers"
3991                               "arabic-page-numbers"
3992                               "alpha-page-numbers"
3993                               "Roman-page-numbers"
3994                               "Alpha-page-numbers"
3995                               "see"
3996                               "seealso"))
3997 \end{filecontents*}
3998 % \end{Verbatim}% for syntax highlighting
3999 \end{LWRwriteconf}

```

40.10 lwarp_one_limage.cmd

File `lwarp_one_limage.cmd` Used by `lwarp` to help make `lateximages` when using WINDOWS.

This must be present when compiling the project, but does not need to be present when distributing the resulting HTML files.

The arguments are each of the three fields from `<project>-images.txt`, and also the base name of the source file.

MiKTeX does not allow file `lwarp_one_limage.cmd` to be created directly by `lwarpmk`, so `lwarp_one_limage.txt` is created instead, then copied to `lwarp_one_limage.cmd` by `lwarpmk`. This occurs each time `lwarpmk` used to create `lateximages`.

Config file:

```

4000 \begin{LWRwriteconf}
4001 \immediate\openout\LWR@quickfile=\\lwarp_one_limage.txt
4002 \immediate\write\LWR@quickfile{%
4003   pdfseparate -f \LWRpercent 1 -l \LWRpercent 1 \LWRpercent 4_html.pdf %
4004   \\LWR@ImagesDirectory\\OSPathSymbol lateximagetemp-\\LWRpercent\\LWRpercent d.pdf%
4005 }
4006 \immediate\write\LWR@quickfile{%
4007   pdfcrop --hires \\LWR@ImagesDirectory\\OSPathSymbol lateximagetemp-\\LWRpercent 1.pdf %
4008   \\LWR@ImagesDirectory\\OSPathSymbol\\LWRpercent 3.pdf%
4009 }
4010 \immediate\write\LWR@quickfile{%
4011   pdftocairo -svg -noshrink \\LWR@ImagesDirectory\\OSPathSymbol\\LWRpercent 3.pdf %
4012   \\LWR@ImagesDirectory\\OSPathSymbol\\LWRpercent 3.svg%
4013 }
4014 \immediate\write\LWR@quickfile{%
4015   del \\LWR@ImagesDirectory\\OSPathSymbol\\LWRpercent 3.pdf%
4016 }
4017 \immediate\write\LWR@quickfile{%
4018   del \\LWR@ImagesDirectory\\OSPathSymbol lateximagetemp-\\LWRpercent 1.pdf%
4019 }
4020 \immediate\write\LWR@quickfile{exit}
4021 \immediate\closeout\LWR@quickfile

```

```
4022 \end{LWRwriteconf}
```

40.11 lwarp_mathjax.txt

File lwarp_mathjax.txt The default MathJax script used by lwarp when using MATHJAX. A recent version of MathJax is used, as served by the recommended repository. Adjustments are made to allow L^TE_X to control the equation tags.

\MathJaxFilename determines which script file is copied into the HTML pages, and defaults to lwarp_mathjax.txt. The script files must be present when compiling the project, but do not need to be present when distributing the resulting HTML files.

custom script To generate a custom script, such as to use a local repository, copy lwarp_mathjax.txt to a new file, make changes while keeping lwarp's adjustments for equation numbering, and use \MathJaxFilename to select new filename.

Config file:

```
4023 \begin{LWRwriteconf}
4024 \begin{filecontents*}[overwrite]{lwarp_mathjax.txt}
4025 <!-- https://groups.google.com/forum/#topic/
4026                                         mathjax-users/jUtewUcE2bY -->
4027 <script type="text/x-mathjax-config">
4028 MathJax.Hub.Register.StartupHook("TeX AMSmath Ready",function () {
4029     var seteqsectionDefault = {name: "", num: 0};
4030     var seteqsections = {}, seteqsection = seteqsectionDefault;
4031     var TEX = MathJax.InputJax.TeX, PARSE = TEX.Parse;
4032     var AMS = MathJax.Extension["TeX/AMSmath"];
4033     TEX.Definitions.Add({
4034         macros: {
4035             seteqsection: "mySection",
4036             seteqnumber: "mySetEqNumber"
4037         }
4038     });
4039
4040     PARSE.Augment({
4041         mySection: function (name) {
4042             seteqsection.num = AMS.number;
4043             var n = this.GetArgument(name);
4044             if (n === "") {
4045                 seteqsection = seteqsectionDefault;
4046             } else {
4047                 if (!seteqsections["_"+n])
4048                     seteqsections["_"+n] = {name:n, num:0};
4049                 seteqsection = seteqsections["_"+n];
4050             }
4051             AMS.number = seteqsection.num;
4052         },
4053         mySetEqNumber: function (name) {
4054             var n = this.GetArgument(name);
4055             if (!n || !n.match(/^\ *[0-9]+\ */))
4056                 n = "";
4057             else
4058                 n = parseInt(n)-1;
4059             <!-- $ syntax highlighting -->
```

```
4060         if (n === "" || n < 1)
4061             TEX.Error
4062             ("Argument to "+name+" should be a positive integer");
4063             AMS.number = n;
4064         }
4065     });
4066     MathJax.Hub.Config({
4067     TeX: {
4068         equationNumbers: {
4069             formatTag: function (n) {
4070                 <!-- if not numeric, don't include the chapter -->
4071                 if (!n.match(/^[0-9]+ */))
4072                     <!-- $ syntax highlighting -->
4073                     return "("+(n).replace(/^.*/,"")+"";
4074                 else
4075                     return "("+(seteqsection.name+"."+n).replace(/^.*/,"")+"";
4076             },
4077             formatID: function (n) {
4078                 n = (seteqsection.name+'.'+n).replace
4079                     (/:'/>&]/g,"").replace(/^.*/,"");
4080                 return 'mjax-eqn-' + n;
4081             }
4082         }
4083     }
4084   });
4085 });
4086</script>
4087
4088<!-- http://docs.mathjax.org/en/latest/options/ThirdParty.html -->
4089<script type="text/x-mathjax-config">
4090   MathJax.Ajax.config.path["Contrib"] =
4091     "https://cdn.mathjax.org/mathjax/contrib";
4092</script>
4093
4094<script type="text/x-mathjax-config">
4095 MathJax.Hub.Config({
4096     TeX: {
4097         extensions: ["autoload-all.js"] ,
4098         equationNumbers: {
4099             autoNumber: "AMS"
4100         }
4101     }
4102 });
4103</script>
4104
4105<!-- Alternative CDN provider: -->
4106<script type="text/javascript" async
4107 src="https://cdnjs.cloudflare.com/ajax/libs/mathjax/2.7.6/MathJax.js?config=TeX-AMS_HTML-full">
4108</script>
4109
4110<!-- No longer supported after April 30, 2017: -->
4111<!--
4112<script
4113 src="https://cdn.mathjax.org/mathjax/latest/MathJax.js?config=TeX-AMS_HTML-full">
4114</script>
```

```

4115 -->
4116
4117 \end{filecontents*}
4118 % \end{Verbatim}% for syntax highlighting
4119 \end{LWRwriteconf}
```

40.12 lwarpmk.lua — lwarpmk option

Opt	lwarpmk	Creates a local copy of <i>lwarpmk</i> .
Prog	lwarpmk	Command-line utility to process lwarf files and images.
parallel processing		lateximages and svg math images are generated using multiple processes in parallel. For UNIX and LINUX, every 32 images the wait command is issued to wait for the previous batch of images to finish processing before starting a new batch. For WINDOWS, every 32 images one task is dispatched with

START /B /WAIT /BELOWNORMAL

which causes the operating system to wait until this lesser-priority tasks finishes, hopefully also waiting for the normal priority tasks which were already in progress to also complete. Afterwards, the next batch of images is started.

The following is only generated if the *lwarpmk* option was given to *lwarf*.

```

4120 \begin{LWR@createlwarpmk}

4121 \begin{filecontents*}[overwrite]{lwarpmk.lua}
4122 #!/usr/bin/env texlua
4123
4124 -- Copyright 2016–2020 Brian Dunn
4125
4126
4127 printversion = "v0.83"
4128 requiredconfversion = "2" -- also at *lwarpmk.conf
4129
4130 function printhelp ()
4131 print ("lwarpmk: Use lwarpmk -h or lwarpmk --help for help.") ;
4132 end
4133
4134
4135 function printusage ()
4136 --
4137 -- Print the usage of the lwarpmk command:
4138 --
4139 print ( [[
4140
4141 lwarpmk print [-p project]: Compile the print version if necessary.
4142 lwarpmk print1 [-p project]: Forced single compile of the print version.
4143 lwarpmk printindex [-p project]: Process print indexes.
4144 lwarpmk printglossary [-p project]: Process the glossary for the print version.
4145 lwarpmk html [-p project]: Compile the HTML version if necessary.
4146 lwarpmk html1 [-p project]: Forced single compile of the HTML version.
```

```
4147 lwarpmk htmlindex [-p project]: Process HTML indexes.
4148 lwarpmk htmlglossary [-p project]: Process the glossary for the html version.
4149 lwarpmk again [-p project]: Touch the source code to trigger recompiles.
4150 lwarpmk limages [-p project]: Process the "lateximages" created by lwarp.sty.
4151 lwarpmk pdftohtml [-p project]:
4152     For use with latexmk or a Makefile:
4153     Converts project_html.pdf to project_html.html and individual HTML files.
4154     Finishes the HTML conversion even if there was a compile error.
4155 lwarpmk pdftosvg <list of file names>: Converts each PDF file to SVG.
4156 lwarpmk epstopdf <list of file names>: Converts each EPS file to PDF.
4157 lwarpmk clean [-p project]: Remove *.aux, *.toc, *.lof/t,
4158     *.idx, *.ind, *.log, *_html_inc.*., .gl*,
4159     *_html.pdf, *_html.html, *_html.sidetoc
4160 lwarpmk cleanall [-p project]: Remove auxiliary files, project.pdf, *.html
4161 lwarpmk cleanlimages: Removes all images from the "lateximages" directory.
4162 lwarpmk -h: Print this help message.
4163 lwarpmk --help: Print this help message.
4164
4165 ]] )
4166 -- printconf ()
4167 end
4168
4169
4170 function splitfilename ( pathandfilename )
4171 --
4172 -- Separates out the path and extension from a filename.
4173 -- Returns path, filename with extension, and extension.
4174 -- Ex: thispath, thisfilename, thisextension = splitfilename ("path/to/filename.ext")
4175 --
4176 -- https://www.fhug.org.uk/wiki/wiki/doku.php?id=plugins:code_snippets:
4177 --     split_filename_in_to_path_filename_and_extension
4178 --
4179     if lfs.attributes(pathandfilename,"mode") == "directory" then
4180         local strPath = pathandfilename:gsub("[\\/]$", "") -- $ (syntax highlighting)
4181         return strPath.."\\", "", ""
4182     end
4183     pathandfilename = pathandfilename..
4184     return pathandfilename:match("^(.-)([^\\/]-%.(^[^\\/.]-)%.)?$")
4185 end
4186
4187
4188 function splitfile (destfile,sourcefile)
4189 --
4190 -- Split one large sourcefile into a number of files,
4191 -- starting with destfile.
4192 -- The file is split at each occurrence of <!--|Start file|newfilename|*
4193 --
4194 print ("lwarpmk: Splitting " .. sourcefile .. " into " .. destfile) ;
4195 local sfile = io.open(sourcefile)
4196 io.output(destfile)
4197 for line in sfile:lines() do
4198 i,j,copen,cstart,newfilename = string.find (line,"(.*)|(.*)|(.*)|") ;
4199 if ( (i~= nil) and (copen == "<!--") and (cstart == "Start file")) then
4200     -- split the file
4201     io.output(newfilename) ;
```

```
4202 else
4203     -- not a splitpoint
4204     io.write (line .. "\n") ;
4205 end
4206 end -- do
4207 io.close(sfile)
4208 end -- function
4209
4210
4211 function cvalueerror ( line, linenum , cvalue )
4212 --
4213 -- Incorrect value, so print an error and exit.
4214 --
4215     print ("lwarpmk: ===")
4216     print ("lwarpmk: " .. linenum .. " : " .. line ) ;
4217     print (
4218         "lwarpmk: incorrect variable value \""
4219         .. cvalue ..
4220         "\" in lwarpmk.conf.\n"
4221     ) ;
4222     print ("lwarpmk: ===")
4223     printconf () ;
4224     os.exit(1) ;
4225
4226
4227 function printhowtorecompile ()
4228 -- Tells the user how to recompile to regenerate the configuration files.
4229     print ("lwarpmk: The configuration files lwarpmk.conf and "..sourcename.."lwarpmkconf" )
4230     print ("lwarpmk: must be updated. To do so, recompile" )
4231     print ("lwarpmk: " , sourcename.."tex" )
4232     if ( printlatexcmd == "" ) then
4233         print ("lwarpmk: using xe/lua/pdflatex," )
4234     else
4235         print ("lwarpmk: using the command:")
4236         print ("lwarpmk: " , printlatexcmd )
4237     end
4238     print ("lwarpmk: then use lwarpmk again.")
4239 end -- printhowtorecompile
4240
4241
4242 function ignoreconf ()
4243 -- Global argument index
4244 argindex = 2
4245 end
4246
4247 function loadconf ()
4248 --
4249 -- Load settings from the project's "lwarpmk.conf" file:
4250 --
4251 -- Default configuration filename:
4252 local conffile = "lwarpmk.conf"
4253 local confroot = "lwarpmk"
4254 -- Global argument index
4255 argindex = 2
4256 -- Optional configuration filename:
```

```
4257 if ( arg[argindex] == "-p" ) then
4258     argindex = argindex + 1
4259     confroot = arg[argindex]
4260     conffile = confroot.."lwarpmkconf"
4261     argindex = argindex + 1
4262 end
4263 -- Additional defaults:
4264 confversion = "0"
4265 opsystem = "Unix"
4266 imagesdirectory = "lateximages"
4267 imagesname = "image-"
4268 latexmk = "false"
4269 printlatexcmd = ""
4270 HTMLlatexcmd = ""
4271 printindexcmd = ""
4272 HTMLIndexcmd = ""
4273 latexmkindexcmd = ""
4274 -- to be removed:
4275 -- indexprog = "makeindex"
4276 -- makeindexstyle = "lwarp.ist"
4277 -- xindylanguage = "english"
4278 -- xindycodepage = "utf8"
4279 -- xindystyle = "lwarp.xdy"
4280 -- pdftotextenc = "UTF-8"
4281 glossarycmd = "makeglossaries"
4282 -- Verify the file exists:
4283 if (lfs.attributes(conffile,"mode")==nil) then
4284     -- file not exists
4285     print ("lwarpmk: ===")
4286     print ("lwarpmk: File \\"..conffile.." does not exist.")
4287     print ("lwarpmk: Move to the project's source directory,")
4288     print ("lwarpmk: recompile using pdflatex, xelatex, or lualatex,")
4289     print ("lwarpmk: then try using lwarpmk again.")
4290     if (arg[argindex] ~= nil) then
4291         print (
4292             "lwarpmk: (\\"..confroot..
4293             "\\" does not appear to be a project name.)"
4294         )
4295     end
4296     print ("lwarpmk: ===")
4297     printhelp () ;
4298     os.exit(1) -- exit the entire lwarpmk script
4299 else -- file exists
4300 -- Read the file:
4301 print ("lwarpmk: Reading " .. conffile ..".")
4302 local cfile = io.open(conffile)
4303 -- Scan each line, parsing each line as: name = [[string]]
4304 local linenum = 0
4305 for line in cfile:lines() do -- scan lines
4306     linenum = linenum + 1
4307     i,j,cvarname,cvalue = string.find (line, "(%w-[_]*%)%s*=%s*%[%([%^]]*)%]" ) ;
4308 -- Error if incorrect enclosing characters:
4309     if ( i == nil ) then
4310         print ("lwarpmk: ===")
4311         print ("lwarpmk: " .. linenum .. " : " .. line ) ;
```

```
4312     print ("lwarpmk: Incorrect entry in " .. conffile .. ".\n" ) ;
4313     print ("lwarpmk: ===")
4314 --     printconf () ;
4315     os.exit(1) ;
4316 end -- nil
4317 if ( cvarname == "confversion" ) then
4318     confversion = cvalue
4319 elseif ( cvarname == "opsystem" ) then
4320     -- Verify choice of opsystem:
4321     if ( (cvalue == "Unix") or (cvalue == "Windows") ) then
4322         opsystem = cvalue
4323     else
4324         cvalueerror ( line, linenum , cvalue )
4325     end
4326 elseif ( cvarname == "sourcename" ) then sourcename = cvalue
4327 elseif ( cvarname == "homehtmlfilename" ) then homehtmlfilename = cvalue
4328 elseif ( cvarname == "htmlfilename" ) then htmlfilename = cvalue
4329 elseif ( cvarname == "imagesdirectory" ) then imagesdirectory = cvalue
4330 elseif ( cvarname == "imagesname" ) then imagesname = cvalue
4331 elseif ( cvarname == "latexmk" ) then latexmk = cvalue
4332 elseif ( cvarname == "printlatexcmd" ) then printlatexcmd = cvalue
4333 elseif ( cvarname == "HTMLlatexcmd" ) then HTMLlatexcmd = cvalue
4334 elseif ( cvarname == "printindexcmd" ) then printindexcmd = cvalue
4335 elseif ( cvarname == "HTMLindexcmd" ) then HTMLindexcmd = cvalue
4336 elseif ( cvarname == "latexmkindexcmd" ) then latexmkindexcmd = cvalue
4337 elseif ( cvarname == "glossarycmd" ) then glossarycmd = cvalue
4338 elseif ( cvarname == "pdftotextenc" ) then pdftotextenc = cvalue
4339 else
4340     print ("lwarpmk: ===")
4341     print ("lwarpmk: " .. linenum .. " : " .. line ) ;
4342     print (
4343         "lwarpmk: Incorrect variable name \""
4344         .. cvarname .. "\" in "
4345         .. conffile .. ".\n"
4346     ) ;
4347     print ("lwarpmk: ===")
4348 --     printconf () ;
4349 os.exit(1) ;
4350 end -- cvarname
4351 io.close(cfile)
4352 end -- file exists
4353 -- Error if sourcename is "lwarp".
4354 -- This could happen if a local copy of lwarp has recently been recompiled.
4355 if sourcename=="lwarp" then
4356     print ("lwarpmk: ===")
4357     print ("lwarpmk: lwarp.sty has recently been recompiled in this directory,")
4358     print ("lwarpmk: and \"lwarpmk.conf\" is no longer set for your own project.")
4359     print ("lwarpmk: (Perhaps you are not in your project's directory?)")
4360     print ("lwarpmk: In your project directory, recompile your project")
4361     print ("lwarpmk: using pdf/lua/xelatex <projectname>.")
4362     print ("lwarpmk: After a recompile, \"lwarpmk.conf\" will be set for your project,")
4363     print ("lwarpmk: and you may again use lwarpmk.")
4364     print ("lwarpmk: ===")
4365     os.exit(1)
4366 end -- sourcename of "lwarp"
```

```
4367 -- Select some operating-system commands:
4368 if opsystem=="Unix" then -- For Unix / Linux / Mac OS:
4369     rmname = "rm"
4370     mvname = "mv"
4371     cpname = "cp"
4372     touchnamepre = "touch"
4373     touchnamepost = ""
4374     newtouchname = "touch"
4375     dirslash = "/"
4376     opquote= "\'"
4377     cmdgroupopenname = " ( "
4378     cmdgroupclosename = " ) "
4379     seqname = " && "
4380     biname = " &"
4381 elseif opsystem=="Windows" then -- For Windows
4382     rmname = "DEL"
4383     mvname = "MOVE"
4384     cpname = "COPY"
4385     touchnamepre = "COPY /b"
4386     touchnamepost = "+,,"
4387     newtouchname = "echo empty >"
4388     dirslash = "\\"
4389     opquote= "\""
4390     cmdgroupopenname = ""
4391     cmdgroupclosename = ""
4392     seqname = " & "
4393     biname = ""
4394 else
4395     print ("lwarpmk: ===")
4396     print ("lwarpmk: Select Unix or Windows for opsystem." )
4397     print ("lwarpmk: ===")
4398     os.exit(1)
4399 end --- for Windows
4400 -- Warning if the operating system does not appear to be correct,
4401 -- in case files were transferred to another system.
4402 if ( (package.config:sub(1,1)) ~= dirslash ) then
4403     print ("lwarpmk: ===")
4404     print ("lwarpmk: It appears that lwarpmk.conf is for a different operating system." )
4405     printhowtorecompile ()
4406     print ("lwarpmk: ===")
4407     os.exit(1)
4408 end
4409 -- Error if the configuration file's version is not current:
4410 if ( confversion ~= requiredconfversion ) then
4411     print ("lwarpmk: ===")
4412     printhowtorecompile ()
4413     print ("lwarpmk: ===")
4414     os.exit(1)
4415 end
4416 end -- loadconf
4417
4418
4419 function executecheckerror ( executecommands , errormessage )
4420 --
4421 -- Execute an operating system call,
```

```
4422 -- and maybe exit with an error message.
4423 --
4424 local err
4425 err = os.execute ( executecommands )
4426 if ( err ~= 0 ) then
4427     print ("lwarpmk: ===")
4428     print ("lwarpmk: " .. errormessage )
4429     print ("lwarpmk: ===")
4430     os.exit(1)
4431 end
4432 end -- executecheckerror
4433
4434
4435 function refreshdate ()
4436 os.execute(touchnamepre .. " " .. sourcename .. ".tex" .. touchnamepost)
4437 end
4438
4439
4440
4441 function reruntoget (filesource)
4442 --
4443 -- Scan the LaTeX log file for the phrase "Rerun to get",
4444 -- indicating that the file should be compiled again.
4445 -- Return true if found.
4446 --
4447 local fsource = io.open(filesource)
4448 for line in fsource:lines() do
4449 if ( string.find(line,"Rerun to get") ~= nil ) then
4450     io.close(fsource)
4451     return true
4452 end -- if
4453 end -- do
4454 io.close(fsource)
4455 return false
4456 end
4457
4458
4459
4460 function onetime (latexcmd, fsuffix)
4461 --
4462 -- Compile one time, return true if should compile again.
4463 -- fsuffix is "" for print, "_html" for HTML output.
4464 --
4465 print("lwarpmk: Compiling with: " .. latexcmd)
4466 executecheckerror (
4467     latexcmd ,
4468     "Compile error."
4469 )
4470 return (reruntoget(sourcename .. fsuffix .. ".log") ) ;
4471 end
4472
4473
4474 function manytimes (latexcmd, fsuffix)
4475 --
4476 -- Compile up to five times.
```

```
4477 -- fsuffix is "" for print, "_html" for HTML output
4478 --
4479 if onetime(latexcmd, fsuffix) == true then
4480 if onetime(latexcmd, fsuffix) == true then
4481 if onetime(latexcmd, fsuffix) == true then
4482 if onetime(latexcmd, fsuffix) == true then
4483 if onetime(latexcmd, fsuffix) == true then
4484 end end end end
4485 end
4486
4487
4488 function verifyfileexists (filename)
4489 --
4490 -- Exit if the given file does not exist.
4491 --
4492 if (lfs.attributes ( filename , "modification" ) == nil ) then
4493     print ("lwarpmk: ===")
4494     print ("lwarpmk: .. filename .. " not found." );
4495     print ("lwarpmk: ===")
4496     os.exit (1) ;
4497 end
4498 end
4499
4500
4501
4502 function pdftohtml ()
4503 --
4504 -- Convert <project>_html.pdf into HTML files:
4505 --
4506 -- Convert to text:
4507 print ("lwarpmk: Converting " .. sourcename
4508     .."_html.pdf to " .. sourcename .. "_html.html")
4509 os.execute("pdftotext -enc " .. pdftotextenc .. " -nopgbrk -layout "
4510     .. sourcename .. "_html.pdf" .. sourcename .. "_html.html")
4511 -- Split the result into individual HTML files:
4512 splitfile (homehtmlfilename .. ".html" , sourcename .. "_html.html")
4513 end
4514
4515
4516 function removeaux ()
4517 --
4518 -- Remove auxiliary files:
4519 -- All .aux files are removed since there may be many bbl*.aux files.
4520 -- Also removes sourcename_html.pdf, sourcename_html.html,
4521 -- and sourcename_html.sidetoc.
4522 --
4523 os.execute ( rmname .. " *.aux " ..
4524     sourcename ..".toc" .. sourcename .. "_html.toc" ..
4525     sourcename ..".lof" .. sourcename .. "_html.lof" ..
4526     sourcename ..".lot" .. sourcename .. "_html.lot" ..
4527     " *.idx" ..
4528     " *.ind" ..
4529     sourcename ..".ps" .. sourcename .."_html.ps" ..
4530     sourcename ..".log" .. sourcename .. "_html.log" ..
4531     sourcename ..".gl*" .. sourcename .. "_html.gl*" ..
```

```
4532     sourcename .. "_html.pdf" ..
4533     sourcename .. "_html.html" ..
4534     sourcename .. "_html.sidetoc" ..
4535     " *_html_inc.* "
4536   )
4537 end
4538
4539 function checkhtmlpdfexists ()
4540 --
4541 -- Error if the HTML document does not exist.
4542 -- The lateximages are drawn from the HTML PDF version of the document,
4543 -- so "lwarpmk html" must be done before "lwarpmk limages".
4544 --
4545 local htmlpdffile = io.open(sourcename .. "_html.pdf", "r")
4546 if ( htmlpdffile == nil ) then
4547   print ("")
4548   print ("lwarpmk: ===")
4549   print ("lwarpmk: The HTML version of the document does not exist.")
4550   print ("lwarpmk: Enter \"lwarpmk html\" to compile the HTML version.")
4551   print ("lwarpmk: ===")
4552   os.exit(1)
4553 end
4554 io.close (htmlpdffile)
4555 end -- checkhtmlpdfexists
4556
4557
4558 function warnlimages ()
4559 --
4560 -- Warning of a missing <sourcename>-images.txt file:
4561   print ("lwarpmk: ===")
4562   print ("lwarpmk: \" .. sourcename .. "-images.txt\" does not exist.")
4563   print ("lwarpmk: Your project does not use SVG math or other lateximages,")
4564   print ("lwarpmk: or the file has been deleted somehow.")
4565   print ("lwarpmk: Use \"lwarpmk html1\" to recompile your project")
4566   print ("lwarpmk: and recreate \" .. sourcename .. "-images.txt\".")
4567   print ("lwarpmk: If your project does not use SVG math or other lateximages,")
4568   print ("lwarpmk: then \" .. sourcename .. "-images.txt\" will never exist, and")
4569   print ("lwarpmk: \"lwarpmk limages\" will not be necessary.")
4570   print ("lwarpmk: ===")
4571 end -- warnlimages
4572
4573
4574 function warnlimagesrecompile ()
4575 -- Warning if must recompile before creating limages:
4576   print ("")
4577   print ("lwarpmk: ===")
4578   print ("lwarpmk: Cross-references are not yet correct.")
4579   print ("lwarpmk: The document must be recompiled before creating the lateximages.")
4580   print ("lwarpmk: Enter \"lwarpmk html1\" again, then try \"lwarpmk limages\" again.")
4581   print ("lwarpmk: ===")
4582 end --warnlimagesrecompile
4583
4584
4585 function checklimages ()
4586 --
```

```
4587 -- Check <sourcename>.txt to see if need to recompile first.
4588 -- If any entry has a page number of zero, then there were incorrect images.
4589 --
4590 print ("lwarpmk: Checking for a valid " .. sourcename .. "-images.txt file.")
4591 local limagesfile = io.open(sourcename .. "-images.txt", "r")
4592 if ( limagesfile == nil ) then
4593     warnlimages ()
4594     os.exit(1)
4595 end
4596 -- Track warning to recompile if find a page 0
4597 local pagezerowarning = false
4598 -- Scan <sourcename>.txt
4599 for line in limagesfile:lines() do
4600     -- lwimgpage is the page number in the PDF which has the image
4601     -- lwimghash is true if this filename is a hash
4602     -- lwimgname is the lateximage filename root to assign for the image
4603     i,j,lwimgpage,lwimghash,lwimgname = string.find (line,"|(.*)|(.*)|(.*)|")
4604     -- For each entry:
4605     if ( (i~=nil) ) then
4606         -- If the page number is 0, image references are incorrect
4607         -- and must recompile the source document:
4608         if ( lwimgpage == "0" ) then
4609             pagezerowarning = true
4610         end
4611     end -- if i~=nil
4612 end -- do
4613 -- The last line should be |end|end|end|.
4614 -- If not, the compile must have aborted, and the images are incomplete.
4615 if ( lwimgpage ~= "end" ) then
4616     warnlimagesrecompile()
4617     os.exit(1) ;
4618 end
4619 if ( pagezerowarning ) then
4620     warnlimagesrecompile()
4621     os.exit(1) ;
4622 end -- pagezerowarning
4623 end -- checklimages
4624
4625
4626 function createuniximage ( lwimgfullname )
4627 --
4628 -- Create one lateximage for Unix / Linux / Mac OS.
4629 --
4630 executecheckerror (
4631     cmdgroupopenname ..
4632     "pdfseparate -f " .. lwimgpage .. " -l " .. lwimgpage .. " " ..
4633     sourcename .. "_html.pdf" ..
4634     imagesdirectory .. dirslash .. "lateximagetemp-%d" .. ".pdf" ..
4635     seqname ..
4636     -- Crop the image:
4637     "pdffcrop --hires " .. imagesdirectory .. dirslash .. "lateximagetemp-" ..
4638     lwimgpage .. ".pdf" ..
4639     imagesdirectory .. dirslash .. lwimgname .. ".pdf" ..
4640     seqname ..
4641     -- Convert the image to svg:
```

```
4642 "pdftocairo -svg -noshrink \" .. imagesdirectory .. dirslash .. lwimgname .. ".pdf" ..
4643     imagesdirectory .. dirslash .. lwimgname .. ".svg" ..
4644     seqname ..
4645 -- Remove the temporary files:
4646 rmname .. " .. imagesdirectory .. dirslash .. lwimgname .. ".pdf" .. seqname ..
4647 rmname .. " .. imagesdirectory .. dirslash .. "lateximagetemp-" .. lwimgpage .. ".pdf" ..
4648 cmdgroupclose .. " >/dev/null " .. bgnome
4649 ,
4650 "File error trying to convert " .. lwimgfullname
4651 )
4652 -- Every 32 images, wait for completion at below normal priority,
4653 -- allowing other image tasks to catch up.
4654 numimageprocesses = numimageprocesses + 1
4655 if ( numimageprocesses > 32 ) then
4656     numimageprocesses = 0
4657     print ( "lwarpmk: waiting" )
4658     executecheckerror ( "wait" , "File error trying to wait." )
4659 end
4660 end -- createuniximage
4661
4662
4663 function createwindowsimage ( lwimgfullname )
4664 --
4665 -- Create one lateximage for Windows.
4666 --
4667 -- Every 32 images, wait for completion at below normal priority,
4668 -- allowing other image tasks to catch up.
4669 numimageprocesses = numimageprocesses + 1
4670 if ( numimageprocesses > 32 ) then
4671     numimageprocesses = 0
4672     thiswaitcommand = "/WAIT /BELOWNORMAL"
4673     print ( "lwarpmk: waiting" )
4674 else
4675     thiswaitcommand = ""
4676 end
4677 -- Execute the image generation command
4678 executecheckerror (
4679     "start /B " .. thiswaitcommand .. " \\\" l warp_one_limage " ..
4680     lwimgpage .. " " ..
4681     lwimghash .. " " ..
4682     lwimgname .. " " ..
4683     sourcename .. " <nul >nul"
4684 ,
4685 "File error trying to create image."
4686 )
4687 end -- createwindowsimage
4688
4689
4690 function createonelateximage ( line )
4691 --
4692 -- Given the next line of <sourcename>.txt, convert a single image.
4693 --
4694 -- lwimgpage is the page number in the PDF which has the image
4695 -- lwimghash is true if this filename is a hash
4696 -- lwimgname is the lateximage filename root to assign for the image
```

```
4697 i,j,lwimgpage,lwimghash,lwimgname = string.find (line,"|(.*)|(.*)|(.*)|")
4698 -- For each entry:
4699 if ( (i~=nil) ) then
4700     -- Skip if the page number is 0:
4701     if ( lwimgpage == "0" ) then
4702         pagezerowarning = true
4703     -- Skip if the page number is "end":
4704     else if ( lwimgpage == "end" ) then
4705     else
4706         -- Skip if this image is hashed and already exists:
4707         local lwimgfullname = imagesdirectory .. dirslash .. lwimgname .. ".svg"
4708         if (
4709             (lwimghash ~= "true") or
4710             (lfs.attributes(lwimgfullname,"mode")==nil) -- file not exists
4711         )
4712         then -- not hashed or not exists:
4713             -- Print the name of the file being generated:
4714             print ( "lwarpmk: " .. lwimgname )
4715             -- Touch/create the dest so that only once instance tries to build it:
4716             executecheckerror (
4717                 newtouchname .. " " .. lwimgfullname ,
4718                 "File error trying to touch " .. lwimgfullname
4719             )
4720             -- Separate out the image into its own single-page pdf:
4721             if opsystem=="Unix" then
4722                 createuniximage (lwimgfullname)
4723             elseif opsystem=="Windows" then
4724                 createwindowsimage (lwimgfullname)
4725             end
4726             end -- not hashed or not exists
4727         end -- not page "end"
4728         end -- not page 0
4729 end -- not nil
4730 end -- createonelateximage
4731
4732
4733 function createlateximages ()
4734 --
4735 -- Create lateximages based on <sourcename>-images.txt:
4736 --
4737 -- See if the document must be recompiled first:
4738 checkimages ()
4739 -- See if the HTML version exists:
4740 checkhtmlpdfexists ()
4741 -- Attempt to create the lateximages:
4742 print ("lwarpmk: Creating lateximages.")
4743 local limagesfile = io.open(sourcename .. "-images.txt", "r")
4744 if ( limagesfile == nil ) then
4745     warnlimages ()
4746     os.exit(1)
4747 end
4748 -- Create the lateximages directory, ignore error if already exists
4749 err = os.execute("mkdir " .. imagesdirectory)
4750 -- For Windows, create lwarp_one_limage.cmd from lwarp_one_limage.txt:
4751 if opsystem=="Windows" then
```

```
4752     executecheckerror (
4753         cpname .. " lwarp_one_limage.txt lwarp_one_limage.cmd" ,
4754         "File error trying to copy lwarp_one_limage.txt to lwarp_one_limage.cmd"
4755     )
4756 end -- create lwarp_one_limage.cmd
4757 -- Track the number of parallel processes
4758 numimageprocesses = 0
4759 -- Track warning to recompile if find a page 0
4760 pagezerowarning = false
4761 -- Scan <sourcename>.txt
4762 for line in limagesfile:lines() do
4763     createonelateximage ( line )
4764 end -- do
4765 io.close(limagesfile)
4766 print ( "lwarpmk limages: ===" )
4767 print ( "lwarpmk limages: Wait a moment for the images to complete" )
4768 print ( "lwarpmk limages: before reloading the page." )
4769 print ( "lwarpmk limages: ===" )
4770 print ( "lwarpmk limages: Done." )
4771 if ( pagezerowarning == true ) then
4772     print ( "lwarpmk limages: WARNING: Images will be incorrect." )
4773     print ( "lwarpmk limages: Enter \"lwarpmk cleanimages\", then" )
4774     print ( "lwarpmk limages: recompile the document one more time, then" )
4775     print ( "lwarpmk limages: repeat \"lwarpmk images\" again." )
4776 end -- pagezerowarning
4777 end -- function
4778
4779
4780 function convertepstopdf ()
4781 --
4782 -- Converts EPS files to PDF files.
4783 -- The filenames are arg[argindex] and up.
4784 -- arg[1] is the command "epstopdf".
4785 --
4786 ignoreconf ()
4787 for i = argindex , #arg do
4788     if (lfs.attributes(arg[i],"mode")==nil) then
4789         print ("lwarpmk: File \"" .. arg[i] .. "\" does not exist.")
4790     else
4791         print ("lwarpmk: Converting \"" .. arg[i] .. "\"")
4792         thispath, thisfilename, thisextension = splitfilename(arg[i])
4793         if ( thispath == nil ) then
4794             os.execute ( "epstopdf " .. arg[i] )
4795         else
4796             os.execute (
4797                 "epstopdf " ..
4798                 thispath .. thisfilename .. "." .. thisextension .. " " ..
4799                 thispath .. thisfilename .. ".pdf"
4800             )
4801         end
4802     end -- if
4803 end -- do
4804 end --function
4805
4806
```

```
4807 function convertpdftosvg ()
4808 --
4809 -- Converts PDF files to SVG files.
4810 -- The filenames are arg[argindex] and up.
4811 -- arg[1] is the command "pdftosvg".
4812 --
4813 ignoreconf ()
4814 for i = argindex , #arg do
4815     if (lfs.attributes(arg[i],"mode")==nil) then
4816         print ("lwarpmk: File '".. arg[i] .. "' does not exist.")
4817     else
4818         print ("lwarpmk: Converting '".. arg[i] .. "'")
4819         thispath, thisfilename, thisextension = splitfilename(arg[i])
4820         if ( thispath == nil ) then
4821             os.execute ( "pdftocairo -svg " .. arg[i] )
4822         else
4823             os.execute (
4824                 "pdftocairo -svg " ..
4825                 thispath .. thisfilename .. "." .. thisextension .. " " ..
4826                 thispath .. thisfilename .. ".svg"
4827             )
4828         end
4829     end -- if
4830 end -- do
4831 end --function
4832
4833
4834 -- Force an update and conclude processing:
4835 function updateanddone ()
4836 print ("lwarpmk: Forcing an update of " .. sourcename .. ".tex")
4837 refreshdate ()
4838 print ("lwarpmk: " .. sourcename .. ".tex is ready to be recompiled.")
4839 print ("lwarpmk: Done.")
4840 end -- function
4841
4842
4843 -- Start of the main code: --
4844
4845
4846 -- lwarpmk --version :
4847
4848 if (arg[1] == "--version") then
4849 print ( "lwarpmk: " .. printversion )
4850
4851 else -- not --version
4852
4853
4854 -- print intro:
4855
4856 print ("lwarpmk: " .. printversion .. " Automated make for the LaTeX Lwarp package.")
4857
4858
4859 -- lwarpmk print:
4860
4861 if arg[1] == "print" then
```

```
4862 loadconf ()
4863 if ( latexmk == "true" ) then
4864     print ("lwarpmk: Compiling with: " .. printlatexcmd)
4865     executecheckerror (
4866         printlatexcmd ,
4867         "Compile error."
4868     )
4869     print ("lwarpmk: Done.")
4870 else -- not latexmk
4871     verifyfileexists (sourcename .. ".tex") ;
4872     -- See if up to date:
4873     if (
4874         ( lfs.attributes ( sourcename .. ".pdf" , "modification" ) == nil ) or
4875         (
4876             lfs.attributes ( sourcename .. ".tex" , "modification" ) >
4877             lfs.attributes ( sourcename .. ".pdf" , "modification" )
4878         )
4879     ) then
4880         -- Recompile if not yet up to date:
4881         manytimes(printlatexcmd, "")
4882         print ("lwarpmk: Done.") ;
4883     else
4884         print ("lwarpmk: " .. sourcename .. ".pdf is up to date.") ;
4885     end
4886 end -- not latexmk
4887
4888
4889 -- lwarpmk print1:
4890
4891 elseif arg[1] == "print1" then
4892     loadconf ()
4893     verifyfileexists (sourcename .. ".tex") ;
4894     onetime(printlatexcmd, "")
4895     print ("lwarpmk: Done.") ;
4896
4897
4898 -- lwarpmk printindex:
4899 -- Compile the index then touch the source
4900 -- to trigger a recompile of the document:
4901
4902 elseif arg[1] == "printindex" then
4903     loadconf ()
4904     os.execute ( printindexcmd )
4905     print ("lwarpmk: -----")
4906     updateanddone ()
4907
4908
4909 -- lwarpmk printglossary:
4910 -- Compile the glossary then touch the source
4911 -- to trigger a recompile of the document:
4912
4913 elseif arg[1] == "printglossary" then
4914     loadconf ()
4915     print ("lwarpmk: Processing the glossary.")
4916
```

```
4917 os.execute(glossarycmd .. " " .. sourcename)
4918 updateanddone ()
4919
4920
4921 -- lwarpmk html:
4922
4923 elseif arg[1] == "html" then
4924 loadconf ()
4925 if ( latexmk == "true" ) then
4926     print ("lwarpmk: Compiling with: " .. HTMLlatexcmd)
4927     executecheckerror (
4928         HTMLlatexcmd ,
4929         "Compile error."
4930     )
4931     pdftohtml ()
4932     print ("lwarpmk: Done.")
4933 else -- not latexmk
4934     verifyfileexists ( sourcename .. ".tex" ) ;
4935     -- See if exists and is up to date:
4936     if (
4937         ( lfs.attributes ( homehtmlfilename .. ".html" , "modification" ) == nil ) or
4938         (
4939             lfs.attributes ( sourcename .. ".tex" , "modification" ) >
4940             lfs.attributes ( homehtmlfilename .. ".html" , "modification" )
4941         )
4942     ) then
4943         -- Recompile if not yet up to date:
4944         manytimes(HTMLlatexcmd, "_html")
4945         pdftohtml ()
4946         print ("lwarpmk: Done.")
4947     else
4948         print ("lwarpmk: " .. homehtmlfilename .. ".html is up to date.")
4949     end
4950 end -- not latexmk
4951
4952
4953 -- lwarpmk html1:
4954
4955 elseif arg[1] == "html1" then
4956     loadconf ()
4957     verifyfileexists ( sourcename .. ".tex" ) ;
4958     onetime(HTMLlatexcmd, "_html")
4959     pdftohtml ()
4960     print ("lwarpmk: Done.")
4961
4962
4963 -- lwarpmk pdftohtml:
4964 elseif arg[1] == "pdftohtml" then
4965     loadconf ()
4966     pdftohtml ()
4967
4968
4969 -- lwarpmk htmlindex:
4970 -- Compile the index then touch the source
4971 -- to trigger a recompile of the document:
```

```
4972
4973 elseif arg[1] == "htmlindex" then
4974 loadconf ()
4975 os.execute ( HTMLIndexcmd )
4976 print ("lwarpmk: -----")
4977 updateanddone ()
4978
4979
4980 -- lwarpmk htmlglossary:
4981 -- Compile the glossary then touch the source
4982 -- to trigger a recompile of the document.
4983 -- The <sourcename>.xdy file is created by the glossaries package.
4984
4985 elseif arg[1] == "htmlglossary" then
4986 loadconf ()
4987 print ("lwarpmk: Processing the glossary.")
4988 os.execute(glossarycmd .. " " .. sourcename .. "_html")
4989 updateanddone ()
4990
4991
4992 -- lwarpmk limages:
4993 -- Scan the <sourcename>.txt file to create lateximages.
4994
4995 elseif arg[1] == "limages" then
4996 loadconf ()
4997 print ("lwarpmk: Processing images.")
4998 createlateximages ()
4999 print ("lwarpmk: Done.")
5000
5001
5002 -- lwarpmk again:
5003 -- Touch the source to trigger a recompile.
5004
5005 elseif arg[1] == "again" then
5006 loadconf ()
5007 updateanddone ()
5008
5009
5010 -- lwarpmk clean:
5011 -- Remove project.aux, .toc, .lof, .lot, .log, *.idx, *.ind, *_html_inc.* , .gl*
5012
5013 elseif arg[1] == "clean" then
5014 loadconf ()
5015 removeaux ()
5016 print ("lwarpmk: Done.")
5017
5018
5019 -- lwarpmk cleanall
5020 -- Remove project.aux, .toc, .lof, .lot, .log, *.idx, *.ind, *_html_inc.* , .gl*
5021 --     and also project.pdf, project.dvi, *.html
5022
5023 elseif arg[1] == "cleanall" then
5024 loadconf ()
5025 removeaux ()
5026 os.execute ( rmname .. " " ..
```

```
5027     sourcename .. ".pdf" .. sourcename .. "_html.pdf" ..
5028     sourcename .. ".dvi" .. sourcename .. "_html.dvi" ..
5029     "*.html"
5030   )
5031 print ("lwarpmk: Done.")
5032
5033
5034 -- lwarpmk cleanimages
5035 -- Remove images from the imagesdirectory.
5036
5037 elseif arg[1] == "cleanimages" then
5038 loadconf ()
5039 os.execute ( rmname .. " " .. imagesdirectory .. dirslash .. "*" )
5040 print ("lwarpmk: Done.")
5041
5042 -- lwarpmk epstopdf <list of file names>
5043 -- Convert EPS files to PDF using epstopdf
5044 elseif arg[1] == "epstopdf" then
5045 convertepstopdf ()
5046 print ("lwarpmk: Done.")
5047
5048
5049 -- lwarpmk pdftosvg <list of file names>
5050 -- Convert PDF files to SVG using pdftocairo
5051 elseif arg[1] == "pdftosvg" then
5052 convertpdftosvg ()
5053 print ("lwarpmk: Done.")
5054
5055
5056 -- lwarpmk with no argument :
5057
5058 elseif (arg[1] == nil) then
5059 printhelp ()
5060
5061
5062 -- lwarpmk -h or lwarpmk --help :
5063
5064 elseif (arg[1] == "-h" ) or (arg[1] == "--help") then
5065 printusage ()
5066
5067
5068 -- Unknown command:
5069
5070 else
5071 printhelp ()
5072 print ("\nlwarpmk: ***** Unknown command \"..arg[1].." . *****\n")
5073 end
5074
5075 end -- not --version
5076 \end{filecontents*}
5077 % \end{Verbatim}% for syntax highlighting

5078 \end{LWR@createlwarpmk}
```

41 Stacks

for HTML output: 5079 \begin{warpHTML}

Stacks are used to remember how to close sections and list items. Before a new section is started, previously nested sections and items must be closed out (un-nested) in proper order. Note that starting a new section may close several levels of previously nested items at the same time. For example, starting a new \section would close any currently open subsection, subsubsection, and paragraph. General environments are not nested on the stack since they have their own close mechanism. List environments are nested, and items inside those environments are nested one level deeper still. List environments may be nested inside other list environments, and list items are nested inside list environments as well. Thus, the stack may have items which are not necessarily in order, since a description may contain an enumerate, for example. Depths to be recorded in \LWR@closedeptphone, etc.

41.1 Assigning depths

initial depths for empty stack entries:

5080 \newcommand*\{\LWR@depthnone\}{-5}

All sectioning depths are deeper than \LWR@depthfinished:

```
5081 \newcommand*\{\LWR@depthfinished\}{-4}
5082 \newcommand*\{\LWR@depthbook\}{-2}
5083 \newcommand*\{\LWR@depthpart\}{-1}
5084 \newcommand*\{\LWR@depthchapter\}{0}
5085 \newcommand*\{\LWR@depthsection\}{1}
5086 \newcommand*\{\LWR@depthsubsection\}{2}
5087 \newcommand*\{\LWR@depthsubsubsection\}{3}
5088 \newcommand*\{\LWR@depthparagraph\}{4}
5089 \newcommand*\{\LWR@depthsubparagraph\}{5}
```

Used by \itemize, \enumerate, \description:

5090 \newcommand*\{\LWR@depthlist\}{6}

Used by \item:

```
5091 \newcommand*\{\LWR@depthlistitem\}{7}
5092 \let\LWR@depthdescitem\LWR@depthlistitem
```

41.2 Closing actions

A stack to record the action to take to close each nesting level: Add more levels of stack if necessary for a very deeply nested document, adding to \pushclose and \popclose as well.

```

5093 \newcommand*\{\LWR@closeone\}{}% top of the stack
5094 \newcommand*\{\LWR@closetwo\}{}%
5095 \newcommand*\{\LWR@closethree\}{}%
5096 \newcommand*\{\LWR@closefour\}{}%
5097 \newcommand*\{\LWR@closefive\}{}%
5098 \newcommand*\{\LWR@closesix\}{}%
5099 \newcommand*\{\LWR@closeseven\}{}%
5100 \newcommand*\{\LWR@closeeight\}{}%
5101 \newcommand*\{\LWR@closenine\}{}%
5102 \newcommand*\{\LWR@closeten\}{}%
5103 \newcommand*\{\LWR@closeeleven\}{}%
5104 \newcommand*\{\LWR@closetwelve\}{}%

```

41.3 Closing depths

A stack to record the depth of each level:

 Note that nested L^AT_EX structures may push depths which are non-sequential.

Ex:

```

\begin{itemize}
  \item{A}
    \begin{description}
      \item{B}
    \end{description}
\end{itemize}

```

```

5105 \newcommand*\{\LWR@closedepthonne\}{\LWR@depthnone}% top of the stack
5106 \newcommand*\{\LWR@closedephtwo\}{\LWR@depthnone}
5107 \newcommand*\{\LWR@closedepththree\}{\LWR@depthnone}
5108 \newcommand*\{\LWR@closedepthfour\}{\LWR@depthnone}
5109 \newcommand*\{\LWR@closedepthfive\}{\LWR@depthnone}
5110 \newcommand*\{\LWR@closedepthsix\}{\LWR@depthnone}
5111 \newcommand*\{\LWR@closedepthseven\}{\LWR@depthnone}
5112 \newcommand*\{\LWR@closedeptheight\}{\LWR@depthnone}
5113 \newcommand*\{\LWR@closedepthnine\}{\LWR@depthnone}
5114 \newcommand*\{\LWR@closedepthten\}{\LWR@depthnone}
5115 \newcommand*\{\LWR@closedeptheleven\}{\LWR@depthnone}
5116 \newcommand*\{\LWR@closedepthtwelve\}{\LWR@depthnone}

```

41.4 Pushing and popping the stack

\LWR@pushclose {<sectiontype>}

Pushes one return action and its L^AT_EX depth onto the stacks.

```

5117 \NewDocumentCommand{\LWR@pushclose}{m}
5118 {%

```

```

5119 \global\let\LWR@closetwelve\LWR@closeeleven%
5120 \global\let\LWR@closeeleven\LWR@closeten%
5121 \global\let\LWR@closeten\LWR@closenine%
5122 \global\let\LWR@closenine\LWR@closeeight%
5123 \global\let\LWR@closeeight\LWR@closeseven%
5124 \global\let\LWR@closeseven\LWR@closesix%
5125 \global\let\LWR@closesix\LWR@closefive%
5126 \global\let\LWR@closefive\LWR@closefour%
5127 \global\let\LWR@closefour\LWR@closethree%
5128 \global\let\LWR@closethree\LWR@closetwo%
5129 \global\let\LWR@closetwo\LWR@closeone%
5130 \global\csletcs{\LWR@closeone}{\LWR@printclose#1}%
5131 \global\let\LWR@closedepthtwelve\LWR@closedeptheleven%
5132 \global\let\LWR@closedeptheleven\LWR@closedepthten%
5133 \global\let\LWR@closedepthten\LWR@closedepthnine%
5134 \global\let\LWR@closedepthnine\LWR@closedeptheight%
5135 \global\let\LWR@closedeptheight\LWR@closedepthseven%
5136 \global\let\LWR@closedepthseven\LWR@closedepthsix%
5137 \global\let\LWR@closedepthsix\LWR@closedepthfive%
5138 \global\let\LWR@closedepthfive\LWR@closedepthfour%
5139 \global\let\LWR@closedepthfour\LWR@closedepththree%
5140 \global\let\LWR@closedepththree\LWR@closedepthtwo%
5141 \global\let\LWR@closedepthtwo\LWR@closedepthonne%
5142 \global\csletcs{\LWR@closedepthonne}{\LWR@depth#1}%
5143 }

```

\LWR@popclose Pops one action and its depth off the stacks.

```

5144 \newcommand*{\LWR@popclose}{%
5145 {%
5146 \global\let\LWR@closeone\LWR@closetwo%
5147 \global\let\LWR@closetwo\LWR@closethree%
5148 \global\let\LWR@closethree\LWR@closefour%
5149 \global\let\LWR@closefour\LWR@closefive%
5150 \global\let\LWR@closefive\LWR@closesix%
5151 \global\let\LWR@closesix\LWR@closeseven%
5152 \global\let\LWR@closeseven\LWR@closeeight%
5153 \global\let\LWR@closeeight\LWR@closenine%
5154 \global\let\LWR@closenine\LWR@closeten%
5155 \global\let\LWR@closeten\LWR@closeeleven%
5156 \global\let\LWR@closeeleven\LWR@closetwelve%
5157 \global\let\LWR@closedepthonne\LWR@closedepthtwo%
5158 \global\let\LWR@closedepthtwo\LWR@closedepththree%
5159 \global\let\LWR@closedepththree\LWR@closedepthfour%
5160 \global\let\LWR@closedepthfour\LWR@closedepthfive%
5161 \global\let\LWR@closedepthfive\LWR@closedepthsix%
5162 \global\let\LWR@closedepthsix\LWR@closedepthseven%
5163 \global\let\LWR@closedepthseven\LWR@closedeptheight%
5164 \global\let\LWR@closedeptheight\LWR@closedepthnine%
5165 \global\let\LWR@closedepthnine\LWR@closedepthten%
5166 \global\let\LWR@closedepthten\LWR@closedeptheleven%
5167 \global\let\LWR@closedeptheleven\LWR@closedepthtwelve%
5168 }%
5169 \end{warpHTML}

```

42 Data arrays

These macros are similar to the `arrayjobx` package, except that `\LWR@setexparray`'s argument is expanded only once when assigned.

`name` has no backslash, `index` can be a number or a text name, and an empty value must be `\relax` instead of empty.

To assign an empty value:

```
\LWR@setexparray{name}{index}{}{}
```

for HTML output: 5170 `\begin{warpHTML}`

```
\LWR@setexparray {<name>} {<index>} {<contents>}

5171 \NewDocumentCommand{\LWR@setexparray}{m m m}{%
5172     \let\LWR@temp@par\par%
5173     \let\par\relax%
5174     \edef\LWR@thisexparrayname{\#1\#2}%
5175     \ifstrempty{\#3}{%
5176         {\csdef{\LWR@thisexparrayname}{}{}}%
5177         {\csedef{\LWR@thisexparrayname}{\#3}}%
5178     \let\par\LWR@temp@par%
5179 }
```



```
\LWR@getexparray {<name>} {<index>}

5180 \newcommand*{\LWR@getexparray}[2]{%
5181     \nameuse{\#1\#2}%
5182 }

5183 \end{warpHTML}
```

43 Localizing catcodes

for HTML & PRINT: 5184 `\begin{warpall}`

⚠ **Misplaced alignment tab character &**

Place `\StartDefiningTabulars` and `\StopDefiningTabulars` before and after defining macros or environments which include the tabular & character in their definitions.

The catcode of & must be changed before the definitions begin, and must be restored afterwards. Doing so avoids the error

Misplaced alignment tab character &.

`\StartDefiningTabulars` Place before defining something with & in it.

```
5185 \newcommand{\StartDefiningTabulars}{%
5186     \LWR@traceinfo{StartDefiningTabulars}%
```

```
5187     \warpHTMLonly{\catcode`\&=\active}%
5188 }
```

\StopDefiningTabulars Place after defining something with & in it.

```
5189 \newcommand{\StopDefiningTabulars}{%
5190     \LWR@traceinfo{StopDefiningTabulars}%
5191     \warpHTMLonly{\catcode`\&=4}%
5192 }
```

Bool LWR@mathmacro True if currently defining math macros. Used to disable SVG math hashing and MathJax math contents while defining a macro using inline math. Begin a macro, it is not guaranteed that the contents are static, and so the image must be unique. The contents also almost certainly will not be parsed correctly by MathJax.

```
5193 \newbool{LWR@mathmacro}
5194 \boolfalse{LWR@mathmacro}
```

\StartDefiningMath Place before defining something with \$ in it.

```
5195 \newcommand{\StartDefiningMath}{%
5196     \LWR@traceinfo{StartDefiningMath}%
5197     \warpHTMLonly{\catcode`\$=\active}%
5198 }
```

\StopDefiningMath Place after defining something with \$ in it.

```
5199 \newcommand{\StopDefiningMath}{%
5200     \LWR@traceinfo{StopDefiningMath}%
5201     \warpHTMLonly{\catcode`\$=3}% math shift
5202 }

5203 \end{warpall}
```

44 Localizing dynamic math

Inline SVG math usually uses a hash of its contents to generate `lateximages` which are reusable for multiple instances with the same contents. If the contents may change for each use, such as depending on the current value of a counter, then `\inlinemathother` must be used before the inline math expression, and `\inlinemathnormal` must be used after.

For MathJax, the inline math expression is usually printed for MathJax to interpret. When marked as dynamic math, the following inline math expression will be displayed as an unhashed inline SVG image instead.

For existing code and packages, it may be possible to patch macros after they have been defined, using the `xpatch` package, which is pre-loaded by `lwarp`:

```
\xpatchcmd{\macroname}
  {$math expression$}
  {\inlinemathother$math expression$\inlinemathnormal}
  {}
  {\typeout{Error patching \macroname.}}
```

for HTML & PRINT: 5204 \begin{warpall}

Bool LWR@dynamicmath True to mark inline math which is dynamic in nature, thus should not be hashed for reuse.
Default: false

```
5205 \newbool{LWR@dynamicmath}
5206 \boolfalse{LWR@dynamicmath}
```

\inlinemathother Place before using \$... \$ or \(...\) if the contents of the math are not static, depending on counters or dynamic macros.

```
5207 \newcommand{\inlinemathother}{%
5208 \LWR@traceinfo{inlinemathother}%
5209 \booltrue{LWR@dynamicmath}%
5210 }
```

\inlinemathnormal Place after using \$... \$ or \(...\) with dynamic contents.

```
5211 \newcommand{\inlinemathnormal}{%
5212 \LWR@traceinfo{inlinemathnormal}%
5213 \boolfalse{LWR@dynamicmath}%
5214 }
```

```
5215 \end{warpall}
```

45 HTML entities

for HTML output: 5216 \begin{warpHTML}

HTML Unicode entities:

```
5217 \let\LWR@origampersand\&
\HTMLentity {\<entitytag>}
5218 \newcommand*{\HTMLentity}[1]{%
5219 % \LWR@traceinfo{HTMLentity} \detokenize{\#1}%
5220 \begingroup%
5221 \LWR@FBcancel%
5222 \LWR@origampersand\#1;%
5223 \endgroup%
5224 % \LWR@traceinfo{HTMLentity done}%
5225 }
```

```
\HTMLunicode {\<hex\_unicode>}

5226 \newcommand*{\HTMLunicode}[1]{\HTMLentity{\LWR@origpound{}x#1}{}}

\&

5227 \renewrobustcmd*{\&}{\HTMLentity{amp}{}}

\textless

5228 \let\LWR@origtextless\textless
5229 \renewrobustcmd*{\textless}{\HTMLentity{lt}{}}

\textgreater

5230 \let\LWR@origtextgreater\textgreater
5231 \renewrobustcmd*{\textgreater}{\HTMLentity{gt}{}}

5232 \end{warpHTML}
```

46 HTML filename generation

The filename of the homepage is set to `\HomeHTMLFilename.html`. The filenames of additional sections start with `\HTMLFilename`, to which is appended a section number or a simplified section name, depending on `FileSectionNames`.

- for HTML & PRINT:** 5233 `\begin{warpall}`
- `\BaseJobname` The `\jobname` of the printed version, even if currently compiling the HTML version. I.e. this is the `\jobname` without `_html` appended. This is used to set `\HomeHTMLFilename` if the user did not provide one.
 - 5234 `\providecommand*{\BaseJobname}{\jobname}`
 - `\HTMLFilename` The prefix for all generated HTML files other than the home page, defaulting to empty. See section [7.6.1](#).
 - 5235 `\providecommand*{\HTMLFilename}{}{}`
 - `\HomeHTMLFilename` The filename of the home page, defaulting to the `\BaseJobname`. See section [7.6.1](#).
 - 5236 `\providecommand*{\HomeHTMLFilename}{\BaseJobname}`
 - `\SetHTMLFileName` `\{<number>\}`
- Sets the file number for the next file to be generated. 0 is the home page. Use just before the next sectioning command, and set it to one less than the desired number

of the next section. May be used to generate numbered groups of nodes such as 100+ for one chapter, 200+ for another chapter, etc.

```
5237 \newcommand*{\SetHTMLFileName}[1]{%
5238 \setcounter{LWR@htmlfilename}{#1}%
5239 }
```

Bool FileSectionNames Selects how to create HTML file names.

Defaults to use section names in the filenames.

```
5240 \newbool{FileSectionNames}
5241 \booltrue{FileSectionNames}

5242 \end{warpall}
```

for HTML output: 5243 \begin{warpHTML}

Ctr LWR@htmlfilename Records the number of each HTML file as it is being created. Number 0 is the home page.

```
5244 \newcounter{LWR@htmlfilename}
5245 \setcounter{LWR@htmlfilename}{0}
```

\LWR@htmlsectionfilename {*htmlfilename or name*}

Prints the filename for a given section: \HTMLFilename{}filename/name.html

```
5246 \newcommand*{\LWR@htmlsectionfilename}[1]{%
5247 \LWR@traceinfo{\LWR@htmlsectionfilename A !\detokenize{#1}!}%
5248 \begingroup%
```

Disable CJK xpinyin while generating file names.

```
5249 \LWR@disablepinyin%
```

Section 0 or empty is given the home filename. The filename must be detokenized for underscores.

```
5250 % \LWR@traceinfo{about to assign temp}%
5251 \LWR@sanitize{#1}%
5252 \LWR@traceinfo{about to compare with ??}%
5253 \ifthenelse{\equal{\LWR@sanitized}{??}}{%
5254   {\LWR@traceinfo{found ??}}%
5255   {\LWR@traceinfo{not found ??}}%
5256 \LWR@traceinfo{about to compare with zero or empty}%
5257 \ifthenelse{%
5258   \equal{\LWR@sanitized}{0}%
5259   \OR \equal{\LWR@sanitized}{}%
5260   \OR \equal{\LWR@sanitized}{??}%
5261 }%
5262 {%
```

```

5263     \LWR@traceinfo{\LWR@htmlsectionfilename B \HomeHTMLFilename.html}%
5264     \HomeHTMLFilename.html%
5265 }%

```

For a L^AT_EX section named “Index” or “index” without a prefix, create a filename with a leading underscore to avoid colliding with the HTML filename index.html:

```

5266 {%
5267     \LWR@traceinfo{\LWR@htmlsectionfilename C \LWR@sanitized}%
5268     \ifthenelse{%
5269         \equal{\HTMLFilename}{} \AND
5270         \equal{\LWR@sanitized}{Index} \OR
5271         \equal{\LWR@sanitized}{index}%
5272     }%
5273     {%
5274         \LWR@traceinfo{Prefixing the index name with an underscore.}%
5275         \_\LWR@sanitized.html%
5276     }%

```

Otherwise, create a filename with the chosen prefix:

```

5277     {%
5278         \HTMLFilename\lWR@isolate{\LWR@sanitized}.html%
5279     }%
5280 }%
5281 \LWR@traceinfo{\LWR@htmlsectionfilename Z}%
5282 \endgroup%
5283 }

```

\LWR@htmlrefsectionfilename {<*label*>}

Prints the filename for the given label

```

5284 \newcommand*{\LWR@htmlrefsectionfilename}[1]{%
5285 \LWR@traceinfo{\LWR@htmlrefsectionfilename: !\detokenize{#1}!}%

```

\LWR@nullfonts to allow math in a section name.

```

5286 \begingroup%
5287 \LWR@nullfonts%
5288 \LWR@htmlsectionfilename{\LWR@htmlfileref{#1}}%
5289 \endgroup%
5290 \LWR@traceinfo{\LWR@htmlrefsectionfilename: done}%
5291 }%

```

5292 \end{warpHTML}

47 Homepage link

for HTML & PRINT: 5293 \begin{warpall}

\linkhomename Holds the default name for the home link.

```
5294 \newcommand{\linkhomename}{Home}
```

```
5295 \end{warpall}
```

for HTML output: 5296 \begin{warpHTML}

\LinkHome May be used wherever you wish to place a link back to the homepage. The filename must be detokenized for underscores.

```
5297 \newcommand*\LinkHome{%
5298 \LWR@subhyperrefclass{\HomeHTMLfilename.html}{\linkhomename}{linkhome}%
5299 }
```

```
5300 \end{warpHTML}
```

for PRINT output: 5301 \begin{warpprint}

\LinkHome May be used wherever you wish to place a link back to the homepage. For print output, if `hyperref` is available a hyperlink to the first page is used, named by `\linkhomename`. If `hyperref` is not available, a `pageref` is used instead.

\BaseJobname is included in the link label in case multiple documents are cross-referenced.

```
5302 \AtBeginDocument{
5303 \@ifundefined{hyperref}{
5304     \newcommand*\LinkHome{%
5305         \linkhomename\ --- page \pageref{\BaseJobname-page-LWRfirstpage}%
5306     }
5307 }{
5308     \newcommand*\LinkHome{%
5309         \hyperref[\BaseJobname-page-LWRfirstpage]{\linkhomename}%
5310     }
5311 }
5312 }
5313
5314 \AfterEndPreamble{\label{\BaseJobname-page-LWRfirstpage}}
5315 \end{warpprint}
```

for HTML output: 5316 \begin{warpHTML}

\LWR@topnavigation Creates a link to the homepage at the top of the page for use when the window is too narrow for the sidetoc.

```
5317 \newcommand*\LWR@topnavigation{%
5318 \LWR@htmlelementclassline{nav}{topnavigation}{\LinkHome}%
5319 }
```

\LWR@botnavigation Creates a link to the homepage at the bottom of the page for use when the window is too narrow for the sideroc.

```
5320 \newcommand*\{\LWR@botnavigation\}{  
5321 \LWR@htmlelementclassline{nav}{botnavigation}{\LinkHome}  
5322 }  
  
5323 \end{warpHTML}
```

48 \LWRPrintStack diagnostic tool

 Diagnostics tool: Prints the LATEX nesting depth values for the stack levels. \LWR@startpars is used before printing the stack, so that \LWRPrintStack may be called from anywhere in the normal text flow.

for HTML output: 5324 \begin{warpHTML}

\LWRPrintStack Prints the closedepth stack.

```
5325 \newcommand*\{\LWR@subprintstack\}{  
5326 \LWR@closedepthonen\ \LWR@closedepthtwo\ \LWR@closedepththree\  
5327 \LWR@closedepthfour\ \LWR@closedepthfive\ \LWR@closedepthsix\  
5328 \LWR@closedepthseven\ \LWR@closedeptheight\ \LWR@closedeptnine\  
5329 \LWR@closedepthten\ \LWR@closedeptheleven\ \LWR@closedepthtwelve\  
5330 }  
5331  
5332 \newcommand*\{\LWRPrintStack\}{  
5333 \LWR@startpars  
5334 \LWR@subprintstack  
5335 }  
  
5336 \end{warpHTML}
```

for PRINT output: 5337 \begin{warpprint}

```
5338 \newcommand*\{\LWRPrintStack\}{}  
  
5339 \end{warpprint}
```

49 Closing stack levels

for HTML output: 5340 \begin{warpHTML}

Close one nested level:

```
5341 \newcommand*\{\LWR@closeoneprevious\}{%  
5342
```

```

5343 \LWR@closeone
5344
5345 \LWR@popclose
5346 }

```

\LWR@closeprevious {*<sectintype>*} Close everything up to the given depth:

```

5347 \newcommand*{\LWR@closeprevious}[1]{
5348 \LWR@traceinfo{%
5349     LWR@closeprevious to depth \csuse{LWR@depth#1}, %
5350     depths are \LWR@subprintstack%
5351 }%

```

Close any pending paragraph:

```
5352 \LWR@stoppars%
```

Close anything nested deeper than the desired depth. First close anything deeper, then at most one of the same level.

```

5353 \whileboolexpr{test{\ifnumcomp{\LWR@closedepthone}{>}{\csuse{LWR@depth#1}}}}{%
5354 }%
5355     \LWR@traceinfo{LWR@closeprevious: closing out depth \LWR@closedepthone}%
5356     \LWR@closeoneprevious%
5357 }%
5358 \ifboolexpr{test{\ifnumcomp{\LWR@closedepthone}{=}{\csuse{LWR@depth#1}}}}{%
5359 }%
5360     \LWR@traceinfo{LWR@closeprevious: closing out depth \LWR@closedepthone}%
5361     \LWR@closeoneprevious%
5362 }{%
5363 \LWR@traceinfo{LWR@closeprevious: done, depths are \LWR@subprintstack}%
5364 }%
5365 \end{warpHTML}

```

50 PDF pages and styles

for HTML output: 5366 \begin{warpHTML}

\LWR@forcenewpage New PDF page a before major environment.

This is used just before major environments, such as *verse*. Reduces the chance of an environment overflowing the HTML PDF output page.

```

5367 \newcommand{\LWR@forcenewpage}{%
5368 \LWR@traceinfo{LWR@forcenewpage}%
5369 \ifinner\else%
5370 \LWR@stoppars\LWR@orignewpage\LWR@startpars%
5371 \fi%
5372 }

```

\pagestyle, etc. are nullified for HTML output.

```
\pagestyle {⟨style⟩}  
5373 \renewcommand*{\pagestyle}[1]{}
```

```
\thispagestyle {⟨style⟩}  
5374 \renewcommand*{\thispagestyle}[1]{}
```

```
\markboth {⟨left⟩} {⟨right⟩}  
5375 \renewcommand*{\markboth}[2]{}  
  
\markright {⟨right⟩}  
5376 \renewcommand*{\markright}[1]{}
```

```
\raggedbottom  
5377 \renewcommand*{\raggedbottom}{}
```

```
\flushbottom  
5378 \renewcommand*{\flushbottom}{}
```

```
\sloppy  
5379 \renewcommand*{\sloppy}{}
```

```
\fussy  
5380 \renewcommand*{\fussy}{}
```

```
\pagenumbering * {⟨commands⟩}  
5381 \RenewDocumentCommand{\pagenumbering}{s m}{  
5382 \end{warpHTML}}
```

51 HTML tags, spans, divs, elements

for HTML output: 5383 \begin{warpHTML}

51.1 Mapping L^AT_EX sections to HTML sections

```

5384 \newcommand*\{\LWR@tagtitle\}{h1}
5385 \newcommand*\{\LWR@tagtitleend\}{/h1}
5386 \newcommand*\{\LWR@tagbook\}{div class="book"}
5387 \newcommand*\{\LWR@tagbookend\}{/div}
5388 \newcommand*\{\LWR@tagpart\}{h2}
5389 \newcommand*\{\LWR@tagpartend\}{/h2}
5390 \newcommand*\{\LWR@tagchapter\}{h3}
5391 \newcommand*\{\LWR@tagchapterend\}{/h3}
5392 \newcommand*\{\LWR@tagsection\}{h4}
5393 \newcommand*\{\LWR@tagsectionend\}{/h4}
5394 \newcommand*\{\LWR@tagsubsection\}{h5}
5395 \newcommand*\{\LWR@tagsubsectionend\}{/h5}
5396 \newcommand*\{\LWR@tagsubsubsection\}{h6}
5397 \newcommand*\{\LWR@tagsubsubsectionend\}{/h6}
5398 \newcommand*\{\LWR@tagparagraph\}{span class="paragraph"}
5399 \newcommand*\{\LWR@tagparagraphend\}{/span}
5400 \newcommand*\{\LWR@tagsubparagraph\}{span class="subparagraph"}
5401 \newcommand*\{\LWR@tagsubparagraphend\}{/span}
5402
5403 \newcommand*\{\LWR@tagregularparagraph\}{p}

```

51.2 Babel-French tag modifications

Adjust *babel-french* for HTML spaces. So far, this only works for *pdflatex* and *xelatex*.

(Emulates or patches code by DANIEL FLIPO.)

```

5404 \providecommand*\{\LWR@FBcancel\}{}%
5405
5406 \AtBeginDocument{%

```

In some circumstances, \NoAutoSpacing may be defined when \frenchbsetup is not.

```

5407 \@ifundefined{NoAutoSpacing}%
5408     {}%
5409     {%
5410         \LetLtxMacro{\LWR@FBcancel}{\NoAutoSpacing}%
5411     }%
5412
5413 \@ifundefined{frenchbsetup}%
5414 {}%
5415 {%
5416     \frenchbsetup{FrenchFootnotes=false}%
5417 %
5418     \renewrobustcmd*\{\FBcolonspace\}{%
5419         \begingroup%
5420         \LWR@FBcancel%
5421         \LWR@origampersand{}nbsp;%
5422         \endgroup%

```

```

5423    }%
5424    \renewrobustcmd*{\FBthinspace}{%
5425        \begingroup%
5426        \LWR@FBcancel%
5427        \LWR@origampersand\LWR@origpound{}x202f;% ,
5428        \endgroup%
5429    }%
5430    \renewrobustcmd*{\FBguillspace}{%
5431        \begingroup%
5432        \LWR@FBcancel%
5433        \LWR@origampersand{}nbsp;% ~, for \og xyz \fg{}%
5434        \endgroup%
5435    }%
5436    \DeclareDocumentCommand{\FBmedkern}{}{%
5437        \begingroup%
5438        \LWR@FBcancel%
5439        \LWR@origampersand\LWR@origpound{}x202f;% ,
5440        \endgroup%
5441    }%
5442    \DeclareDocumentCommand{\FBthickkern}{}{%
5443        \begingroup%
5444        \LWR@FBcancel%
5445        \LWR@origampersand{}nbsp;% ~
5446        \endgroup%
5447    }%
5448    \renewrobustcmd*{\~}{\HTMLentity{nbsp}}% was overwritten by babel-french
5449    \iffBunicode%
5450    \else%
5451        \DeclareTextSymbol{\FBtextellipsis}{LY1}{133}%
5452        \DeclareTextCommandDefault{\FBtextellipsis}{\textellipsis\xspace}%
5453    \fi%
5454 }%
5455 }

```

51.3 HTML output formatting

Helps format the output HTML code for human readability.

\LWR@indentHTML Newline and indent the output HTML code.

```

5456 \newcommand*{\LWR@indentHTML}{%
5457     \LWR@orignewline\LWR@origrule{2em}{0pt}%
5458 }

```

\LWR@indentHTMLtwo Newline and indent the output HTML code.

```

5459 \newcommand*{\LWR@indentHTMLtwo}{%
5460     \LWR@orignewline\LWR@origrule{4em}{0pt}%
5461 }

```

51.4 HTML tags

\LWR@htmltagc {*tag*} Break ligatures and use upright apostrophes in HTML tags.

\protect is in case the tag appears in TOC, LOF, LOT.

```

5462 \newcommand*{\LWR@htmltagc}[1]{%
5463 \LWR@traceinfo{\LWR@htmltagc !\detokenize{#1}!}%
5464 \begingroup%
5465 \LWR@FBcancel%
5466 \ifmmode\else\protect\LWR@origttfamily\fi%
5467 \protect\LWR@origtextless%
5468 \LWR@isolate{#1}%
5469 \protect\LWR@origtextgreater%
5470 \endgroup%
5471 }
```

Env \LWR@nestspan Disable minipage, \parbox, and HTML <div>s inside a .

- ⚠ \begin{\LWR@nestspan} must follow the opening tag to allow a paragraph to start if the span is at the beginning of a new paragraph.
- ⚠ \end{\LWR@nestspan} must follow the or a <p> may appear inside the span.

```

5472 \newcommand*{\LWR@nestspanitem}{%
5473 \if@newlist\else{\LWR@htmltagc{br /}}\fi%
5474 \LWR@origitem%
5475 }
5476
5477 \newenvironment*{\LWR@nestspan}
5478 {%
5479 \LWR@traceinfo{\LWR@nestspan starting}%
5480 \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}%
5481 {%
5482     \LWR@traceinfo{\LWR@nestspan: inside a lateximage}%
5483 }%
5484 {%
5485     \LWR@traceinfo{\LWR@nestspan: NOT inside a lateximage}%
5486     \addtocounter{\LWR@spandepth}{1}%
5487     \RenewDocumentEnvironment{minipage}{O{t} o O{t} m}%
5488         {\LWR@subhtmlelementclass{span}{inlineminipage}}%
5489         {\LWR@htmltagc{/span}}%
5490     \RenewDocumentEnvironment{BlockClass}{o m}{}{%
5491     \renewcommand{\BlockClassSingle}[2]{##2}%
5492     \renewcommand{\LWR@forcenewpage}{}%
5493     \renewcommand{\LWR@liststart}{}%
5494         \let\item\LWR@nestspanitem%
5495 }%
5496     \renewcommand{\LWR@listend}{\LWR@htmltagc{br /}\LWR@htmltagc{br /}}%
5497     \renewenvironment{quote}{\LWR@htmltagc{br /}}{\LWR@htmltagc{br /}}%
5498     \renewenvironment{quotation}{\LWR@htmltagc{br /}}{\LWR@htmltagc{br /}}%
5499 }%
5500 \LWR@traceinfo{\LWR@nestspan starting: done}%
5501 }% starting env
```

```

5502 {%
  ending env
  \LWR@traceinfo{\LWR@nestspan ending}%
  \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}%
  {}%
  \addtocounter{\LWR@spandepth}{-1}%
  \LWR@traceinfo{\LWR@nestspan ending: done}%
}
5509
5510 \AfterEndEnvironment{\LWR@nestspan}{\global\let\par\LWR@closeparagraph}

```

\LWR@htmlspan {*tag*} {*text*}

 \LWR@spandepth is used to ensure that paragraph tags are not generated inside a span.
The exact sequence of when to add and subtract the counter is important to correctly handle the paragraph tags before and after the span.

```

5511 \NewDocumentCommand{\LWR@htmlspan}{m +m}{%
  \LWR@ensuredoingapar%
  \LWR@htmltagc{#1}%
  \begin{\LWR@nestspan}%
  #2%
  \LWR@htmltagc{/#1}%
  \end{\LWR@nestspan}%
}
5518 }

```

\LWR@htmlspanclass [*style*] {*class*} {*text*}

```

5519 \NewDocumentCommand{\LWR@htmlspanclass}{o m +m}{%
  \LWR@traceinfo{\LWR@htmlspanclass |#1|#2|}%
  \LWR@ensuredoingapar%
  \LWR@subhmtlelementclass{span}[#1]{#2}%
  \begin{\LWR@nestspan}%
  #3%
  \LWR@htmltagc{/span}%
  \LWR@traceinfo{\LWR@htmlspanclass done}%
  \end{\LWR@nestspan}%
}
5528 }

```

\LWR@htmltag {*tag*}

Print an HTML tag: <*tag*>

```

5529 \newcommand*{\LWR@htmltag}[1]{%
  \LWR@traceinfo{\LWR@htmltagb !\detokenize{#1}!}%
  \LWR@htmltagc{#1}%
  \LWR@traceinfo{\LWR@htmltagb: done}%
}
5533 }

```

51.5 Block tags and comments

In the following, \origttfamily breaks ligatures, which may not be used for HTML codes:

```

\LWR@htmlopencomment
\LWR@htmclosecomment
 5534 \newcommand{\LWR@htmlopencomment}{%
 5535 {%
 5536 % \LWR@traceinfo{\LWR@htmlopencomment}%
 5537 \begingroup%
 5538 \LWR@FBcancel%
 5539 \ifmmode\else\protect\LWR@origttfamily\fi%
 5540 \LWR@print@mbox{\LWR@origtextless{}!-/-}%
 5541 \endgroup%
 5542 }%
 5543 }
 5544
 5545 \newcommand{\LWR@htmclosecomment}{%
 5546 {%
 5547 % \LWR@traceinfo{\LWR@htmclosecomment}%
 5548 \begingroup%
 5549 \LWR@FBcancel%
 5550 \ifmmode\else\protect\LWR@origttfamily\fi%
 5551 \LWR@print@mbox{-/-\LWR@origtextgreater}%
 5552 \endgroup%
 5553 }%
 5554 }

\LWR@htmlcomment {<comment>}
 5555 \newcommand{\LWR@htmlcomment}[1]{%
 5556 \LWR@htmlopencomment{}%
 5557 {%
 5558 \LWR@origttfamily% break ligatures
 5559 #1%
 5560 }%
 5561 \LWR@htmclosecomment{}}

\LWR@htmlblockcomment {<comment>}
 5562 \newcommand{\LWR@htmlblockcomment}[1]
 5563 {\LWR@stoppars\LWR@htmlcomment{#1}\LWR@startpars}

\LWR@htmlblocktag {<tag>} print a stand-alone HTML tag
 5564 \newcommand{\LWR@htmlblocktag}[1]{%
 5565 \LWR@stoppars%
 5566 \LWR@htmlltag{#1}%
 5567 \LWR@startpars%
 5568 }

```

51.6 Div class and element class

```
\LWR@subhtmlelementclass {<element>} [<style>] {<class>}
```

Factored and reused in several places.

The trailing spaces allow more places for a line break.

The use of \textquotedbl instead of " provides improved compatibility with xeCJK.

```
5569 \NewDocumentCommand{\LWR@subhtmlelementclass}{m O{} m}{%
5570 \LWR@traceinfo{\LWR@subhtmlelementclass !#1!#2!#3!}%
5571 \ifblank{#2}%
5572 {%
5573     \LWR@htmltag{%
5574         #1 % space
5575         class=\textquotedbl#3\textquotedbl\ % space
5576     }%
5577 }%
5578 {%
5579     \LWR@htmltag{%
5580         #1\LWR@indentHTML%
5581         class=\textquotedbl#3\textquotedbl\LWR@indentHTML%
5582         style=\textquotedbl#2\textquotedbl\LWR@newline%
5583     }%
5584 }%
5585 \LWR@traceinfo{\LWR@subhtmlelementclass done}%
5586 }
```

\LWR@htmlelementclass {\langle element \rangle} {\langle class \rangle} [{\langle style \rangle}]

```
5587 \NewDocumentCommand{\LWR@htmlelementclass}{m o m}{%
5588 \LWR@stoppars%
5589 \LWR@forceemptyline%
5590 \LWR@subhtmlelementclass[#1][#2][#3]%
5591 \LWR@startpars%
5592 }
```

\LWR@htmlelementclassend {\langle element \rangle} {\langle class \rangle}

```
5593 \newcommand*{\LWR@htmlelementclassend}[2]{%
5594 \LWR@stoppars%
5595 \LWR@htmltag{/#1}%
5596 \ifbool{HTMLDebugComments}{%
5597     \LWR@htmlcomment{End of #1 ``#2''}%
5598 }{}}%
5599 \LWR@startpars%
5600 }
```

\LWR@htmldivclass [{\langle style \rangle}] {\langle class \rangle}

```
5601 \NewDocumentCommand{\LWR@htmldivclass}{o m}{%
5602 \LWR@htmlelementclass{div}[#1][#2]%
5603 }
```

\LWR@htmldivclassend {\langle class \rangle}

```

5604 \newcommand*{\LWR@htmldivclassend}[1]{%
5605 \LWR@htmlelementclassend{div}{#1}%
5606 }

```

51.7 Single-line elements

A single-line element, without a paragraph tag for the line of text:

```

\LWR@htmlelementclassline {\langle element\rangle} [\langle style\rangle] {\langle class\rangle} {\langle text\rangle}

5607 \NewDocumentCommand{\LWR@htmlelementclassline}{m o m +m}{%
5608 \LWR@stoppars
5609 \LWR@forceemptyline%
5610 \LWR@subhtmlelementclass{#1}[#2]{#3}%
5611 #4%
5612 \LWR@htmltag{/#1}
5613 \LWR@startpars
5614 }

```

51.8 HTML5 semantic elements

```

\LWR@htmlelement {\langle element\rangle}

5615 \newcommand*{\LWR@htmlelement}[1]{%
5616 \LWR@htmlblocktag{#1}%
5617 }

\LWR@htmlelementend {\langle element\rangle}

5618 \newcommand*{\LWR@htmlelementend}[1]{%
5619 \LWR@stoppars
5620 \LWR@htmltag{/#1}
5621 \LWR@startpars
5622 }
5623
5624 \end{warpHTML}

```

51.9 High-level block and inline classes

These are high-level commands which allow the creation of arbitrary block or inline sections which may be formatted with css.

Nullified versions are provided for print mode.

For other direct-formatting commands, see section [90](#).

Env BlockClass [*<style>*] {*class*} High-level interface for <div> classes.

Ex: \begin{BlockClass}{class} text \end{BlockClass}

for PRINT output: 5625 \begin{warpprint}
 5626 \NewDocumentEnvironment{BlockClass}{o m}{}{}%
 5627 \end{warpprint}

for HTML output: 5628 \begin{warpHTML}
 5629 \NewDocumentEnvironment{LWR@print@BlockClass}{o m}{}{}%
 5630 \NewDocumentEnvironment{LWR@HTML@BlockClass}{o m}{}%
 5631 {}%
 5632 \LWR@htmldivclass[#1]{#2}%
 5633 }
 5634 {\LWR@htmldivclassend{#2}}
 5635
 5636 \LWR@formattedenv{BlockClass}
 5637 \end{warpHTML}

\BlockClassSingle {*class*} {*text*} A single-line <div>, without a paragraph tag for the line of text.

for HTML & PRINT: 5638 \begin{warpall}
 5639 \newcommand{\BlockClassSingle}[2]{#2}
 5640 \end{warpall}

for HTML output: 5641 \begin{warpHTML}
 5642 \newcommand{\LWR@HTML@BlockClassSingle}[2]{%
 5643 \LWR@htmlelementclassline{div}{#1}{#2}}%
 5644 }
 5645
 5646 \LWR@formatted{BlockClassSingle}
 5647 \end{warpHTML}

\InlineClass ((WP style)) [*<style>*] {*class*} {*text*}

High-level interface for inline span classes.

((WP style)) is css styling to add when formatting for a word processor import.

[*<style>*] is the css styling to add when not formatting for a word processor.

for PRINT output: 5648 \begin{warpprint}
 5649 \NewDocumentCommand{\InlineClass}{D{()}{}} o m +m}{#4}}%
 5650 \end{warpprint}

for HTML output: 5651 \begin{warpHTML}
 5652 \NewDocumentCommand{\LWR@print@InlineClass}{D{()}{}} o m +m}{#4}}%
 5653
 5654 \NewDocumentCommand{\LWR@HTML@InlineClass}{D{()}{}} o m +m}{%
 5655 \ifbool{FormatWP}{%
 5656 \LWR@htmllspanclass[#1]{#3}{#4}}%
 5657 }{
 5658 \LWR@htmllspanclass[#2]{#3}{#4}}%
 5659 }%

```

5660 }
5661
5662 \LWR@formatted{InlineClass}
5663 \end{warpHTML}
```

Env LWR@BlockClassWP {*WPstyle*} {*HTMLstyle*} {*class*} Low-level interface for <div> classes with an automatic float ID. These are often used when \ifbool{FormatWP}.

The use of \textquotedbl instead of " provides improved compatibility with xeCJK.

for PRINT output: 5664 \begin{warpprint}
5665 \NewDocumentEnvironment{LWR@BlockClassWP}{m m m}{}{%
5666 \end{warpprint}}

for HTML output: 5667 \begin{warpHTML}
5668 \NewDocumentEnvironment{LWR@print@LWR@BlockClassWP}{m m m}{}{%
5669 \NewDocumentEnvironment{LWR@HTML@LWR@BlockClassWP}{m m m}%
5670 {%
5671 \LWR@stoppars%
5672 \ifbool{FormatWP}%
5673 {%
5674 \addtocounter{LWR@thisautoidWP}{1}%
5675 \LWR@htmlltag{%
5676 div class=\textquotedbl#3\textquotedbl\ % space
5677 id=\textquotedbl%
5678 \LWR@print@mbox{autoidWP-\arabic{LWR@thisautoidWP}}%
5679 \textquotedbl%
5680 \ifblank{#1}{}{ style=\textquotedbl#1\textquotedbl}%
5681 }%
5682 }% FormatWP
5683 {%
5684 \LWR@htmlltag{%
5685 div class=\textquotedbl#3\textquotedbl%
5686 \ifblank{#2}{}{ style=\textquotedbl#2\textquotedbl}%
5687 }%
5688 }% not FormatWP
5689 \LWR@startpars%
5690 }
5691 {\LWR@htmldivclassend{#3}}
5692
5693 \LWR@formattedenv{LWR@BlockClassWP}
5694 \end{warpHTML}

51.10 Closing HTML tags

for HTML output: 5695 \begin{warpHTML}

Sections H1, H2, etc. do not need a closing HTML tag, but we add a comment for readability:

```
5696 \newcommand*{\LWR@printclosebook}
```

```

5697     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing book}}{}}
5698 \newcommand*{\LWR@printclosepart}
5699     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing part}}{}}
5700 \newcommand*{\LWR@printclosechapter}
5701     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing chapter}}{}}
5702 \newcommand*{\LWR@printclosesection}
5703     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing section}}{}}
5704 \newcommand*{\LWR@printclosesubsection}
5705     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing subsection}}{}}
5706 \newcommand*{\LWR@printclosesubsubsection}
5707     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing subsubsection}}{}}
5708 \newcommand*{\LWR@printcloseparagraph}
5709     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing paragraph}}{}}
5710 \newcommand*{\LWR@printclosesubparagraph}
5711     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing subparagraph}}{}}

```

Lists require closing HTML tags:

```

5712 \newcommand*{\LWR@printcloselistitem}
5713     {\LWR@htmlltag{/li}}
5714 \newcommand*{\LWR@printclosedescitem}
5715     {\LWR@htmlltag{/dd}}
5716 \newcommand*{\LWR@printcloseitemize}
5717     {\LWR@htmlltag{/ul}}
5718 \newcommand*{\LWR@printcloseenumerate}
5719     {\LWR@htmlltag{/ol}}
5720 \newcommand*{\LWR@printclosedescription}
5721     {\LWR@htmlltag{/dl}}

```

```
5722 \end{warpHTML}
```

52 Paragraph handling

These commands generate the HTML paragraph tags when allowed and required.

Paragraph tags are or are not allowed depending on many conditions. Section 53 has high-level commands which allow paragraph-tag generation to start/stop. Even when allowed (\LWR@doingstartpars), tags are not generated until a L^AT_EX paragraph is being used (\LWR@doingapar). LWR@lateximagedepth is used to prevent nesting tags inside a *lateximage*. LWR@spandepth is used to prevent nesting paragraph tags inside a paragraph, which became important inside \fbox commands and other spans.

for HTML output: 5723 \begin{warpHTML}

Ctr LWR@spandepth Do not create paragraph tags inside of an HTML span.

```

5724 \newcounter{LWR@spandepth}
5725 \setcounter{LWR@spandepth}{0}

```

Bool LWR@doingstartpars Tells whether paragraphs may be generated.

```
5726 \newbool{LWR@doingstartpars}
5727 \boolearn{LWR@doingstartpars}
```

Bool LWR@doingapar Tells whether have actually generated and are currently processing paragraph text.

```
5728 \newbool{LWR@doingapar}
5729 \global\boolearn{LWR@doingapar}
```

\LWR@ensuredoingapar If are about to print something visible, and if allowed to start a new paragraph, ensure that are LWR@doingapar, so that paragraph tags are placed:

```
5730 \newcommand*{\LWR@ensuredoingapar}{%
5731 \ifbool{LWR@doingstartpars}{%
5732 {\global\boolearn{LWR@doingapar}}{%
5733 {}{%
5734 }}
```

\PN@parnotes@auto Redefined by parnotes to print paragraph notes at the end of each paragraph.

```
5735 \def\PN@parnotes@auto{}%
```

\LWR@openparagraph

```
5736 \newcommand*{\LWR@openparagraph}{%
5737 {}%
```

See if paragraph handling is enabled:

```
5738 \ifbool{LWR@doingstartpars}{%
5739 {}% handling pars}
```

See if have already started a `lateximage` or a ``. If so, do not generate nested paragraph tags.

```
5740 \ifboolexpr{%
5741   test {\ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}}{%
5742     test {\ifnumcomp{\value{LWR@spandepth}}{>}{0}}{%
5743   }% nested par tags?}}
```

If so: Do nothing if already started a `lateximage` page. Cannot nest a `lateximage`. Also do nothing if already inside a ``. Do not nest paragraph tags inside a ``.

```
5744 {}% no nested par tags
```

Else: No `lateximage` or `` has been started yet, so it's OK to generate paragraph tags.

```
5745 {}% yes nest par tags
```

If `parnotes` is used, paragraph notes are inserted before starting the next paragraph:

```
5746 \PN@parnotes@auto%
```

The opening paragraph tag:

```
5747 \LWR@htmlltagc{\LWR@tagregularparagraph}\LWR@orignewline%
```

Now have started a paragraph.

```
5748 \global\booltrue{\LWR@doingapar}%
```

At the end of each paragraph, generate closing tag and do regular /par stuff. (Attempting to use the `everyhook cr` hook for `\LWR@closeparagraph` does not work well.)

```
5749 \let\par{\LWR@closeparagraph%
5750 }% end of yes nest par tags
5751 }% end of handling pars
5752 {}% not handling pars
5753 }
```

`\LWR@closeparagraph@br` Add an HTML break if in a span, and not in a `lateximage`, and not in tabular metadata.
Factored from `\LWR@closeparagraph`.

```
5754 \newcommand*{\LWR@closeparagraph@br}{%
5755 {%
5756 \ifboolexpr{%
5757 test {\ifnumcomp{\value{\LWR@spandepth}}{>}{0}} and
5758 test {\ifnumcomp{\value{\LWR@lateximagedepth}}{=}{0}} and
5759 not bool {\LWR@intabularmetadata}%
5760 }%
5761 {\unskip\LWR@htmlltagc{br /}}%
5762 {}%
5763 }}
```

`\LWR@closeparagraph`

```
5764 \newcommand*{\LWR@closeparagraph}{%
5765 {%
5766 % \LWR@traceinfo{\LWR@closeparagraph}%
```

See if paragraph handling is enabled:

```
5767 \ifbool{\LWR@doingapar}{}
```

If currently in paragraph mode:

```
5768 {}% handling pars
```

See if already started a `lateximage` or a ``:

```
5769 \ifboolexpr{%
5770 test {\ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}} or
5771 test {\ifnumcomp{\value{\LWR@spandepth}}{>}{0}}%
5772 }%
```

Add a parbreak if in a span, not in a lateximage, and not in table metadata.

```
5773      {% no nested par tags
5774          \LWR@closeparagraph@br%
5775      }% no nested par tags
```

If have not already started a `lateximage` or a ``:

```
5776      {% yes nest par tags
```

Print a closing tag and some extra vertical space.

(The `fill` seems to be required to force the `caption` package to create flush left caption text in the HTML.)

```
5777      @hspacer{\fill}%
5778      \leavevmode\LWR@newline%
5779      \LWR@htmllagc{/LWR@tagregularparagraph}%
```

No longer doing a paragraph:

```
5780      \global\boolfalse{LWR@doingapar}%
```

Disable the special `minipage` & `\hspace` interaction until a new minipage is found:

```
5781      \global\boolfalse{LWR@minipagethispar}%
```

If `parnotes` is used, paragraph notes are inserted after ending the previous paragraph:

```
5782      \PN@parnotes@auto%
5783      }% end of yes nest par tags
5784 }% end of handling pars
```

Add a parbreak if in a span, not in a `lateximage`, and not in table metadata.

```
5785 {% not handling pars
5786     \LWR@closeparagraph@br%
5787 }% not handling pars
```

In most cases, finish with a L^AT_EX `\par`, but in the case of paragraphs between lines in a tabular fetch the next token instead:

```
5788 \ifboolexpr{%
5789     not bool {LWR@doingapar} and
5790     test {\ifnumcomp{\value{LWR@tabulardepth}}{>}{0}} and
5791     test {
5792         \ifnumcomp{\value{LWR@tabulardepth}}{=}{\value{LWR@tabularpardepth}}
5793     } and
5794     bool {LWR@intabularmetadata} and
5795     not bool {LWR@tableparcell} and
5796     test {\ifnumcomp{\value{LWR@lateximagedepth}}{=}{0}}
5797 }%
5798 {%
```

```

5799     \LWR@getmynexttoken%
5800 }%
5801     \LWR@origpar%
5802 }%
5803 }

5804 \end{warpHTML}

```

53 Paragraph start/stop handling

These commands allow/disallow the generation of HTML paragraph tags.

Section 52 has the commands which actually generate the tags.

The everyhook package is used to generate the opening paragraph tags. The closing tags are generated by \par.

for HTML output: 5805 \begin{warpHTML}

\LWR@startpars Begin handling HTML paragraphs. This allows an HTML paragraph to start, but one has not yet begun.

```

5806 \newcommand*\LWR@startpars{%
5807 {%
5808 % \LWR@traceinfo{\LWR@startpars}%

```

Ignore if inside a span:

```

5809 \ifnumcomp{\value{LWR@spandepth}}{>}{0}{%
5810 {}%
5811 {}%

```

See if currently handling HTML paragraphs:

```

5812 \ifbool{\LWR@doingstartpars}{%

```

If already in paragraph mode, do nothing.

```

5813 {}%

```

If not currently in paragraph mode:

```

5814 {}%

```

At the start of each paragraph, generate an opening tag:

```

5815 \PushPreHook{par}{\LWR@openparagraph}%

```

At the end of each paragraph, generate closing tag then do regular /par actions:

```
5816      \let\par\LWR@closeparagraph
5817
5818  }% an intentionally blank line
```

Are now handling paragraphs, but have not yet actually started one:

```
5819  \global\setbool{\LWR@doingstartpars}{true}%
```

No <par> tag yet to undo:

```
5820  \global\boolfalse{\LWR@doingapar}%
5821 }% nestspan
5822 % \LWR@traceinfo{\LWR@startpars: done}%
5823 }
```

\LWR@stopars Stop handling HTML paragraphs. Any currently open HTML paragraph is closed, and no more will be opened.

```
5824 \newcommand*{\LWR@stopars}%
5825 {%
```

Ignore if inside a span:

```
5826 \ifnumcomp{\value{\LWR@spandepth}}{>}{0}%
5827 {}%
5828 {}%
```

See if currently handling HTML paragraphs:

```
5829 \ifbool{\LWR@doingapar}{}
```

if currently in an HTML paragraph:

```
5830 {%
```

Print a closing tag:

```
5831  \leavevmode\LWR@orignewline%
5832  \LWR@htmlltagc{/ \LWR@tagregularparagraph}%
5833  \LWR@orignewline%
```

No longer have an open HTML paragraph:

```
5834 \global\boolfalse{\LWR@doingapar}%
```

Disable the special `\minipage` & `\hspace` interaction until a new minipage is found:

```
5835 \global\boolfalse{\LWR@minipagethispar}%
5836 }%
```

If was not in an HTML paragraph:

```
5837 {}%
```

See if currently allowing HTML paragraphs:

```
5838 \ifbool{LWR@doingstartpars}{%
```

If so: clear the par hook to no longer catch paragraphs:

```
5839 {\ClearPreHook{par}}%
```

Else: Do nothing:

```
5840 {}%
```

No longer in paragraph mode:

```
5841 \global\setbool{LWR@doingstartpars}{false}{%
```

No <p> tag to undo:

```
5842 \global\boolfalse{LWR@doingapar}{%
5843 }% nestspan
5844 }
```

```
5845 \end{warpHTML}
```

54 Indentfirst

Pkg indentfirst indentfirst redefines \@afterindentfalse to be \@afterindenttrue. This is reversed \AtBeginDocument here.

for HTML output: 5846 \begin{warpHTML}

```
5847 \AtBeginDocument{
5848 \def\@afterindentfalse{\let\if@afterindent\iffalse}
5849 \@afterindentfalse
5850 }
5851 \let\LWR@afterindent@syntaxhighlight\fi% syntax highlighting

5852 \end{warpHTML}
```

55 Page headers and footers

for HTML & PRINT: 5853 \begin{warpall}

In the following, catcode is manually changed back and forth without groups, since new macros are being defined which must not be contained within the groups.

```
5854 \newcommand{\LWR@firstpagetop}{} % for the home page alone
5855 \newcommand{\LWR@pagetop}{} % for all other pages
5856 \newcommand{\LWR@pagebottom}{}%
```

```
\HTMLFirstPageTop {<text and logos>}

5857 \newcommand{\HTMLFirstPageTop}[1]{%
5858     \renewcommand{\LWR@firstpagetop}{#1}%
5859 }

\HTMLPageTop {<text and logos>}

5860 \newcommand{\HTMLPageTop}[1]{%
5861     \renewcommand{\LWR@pagetop}{#1}%
5862 }

\HTMLPageBottom {<text and logos>}

5863 \newcommand{\HTMLPageBottom}[1]{%
5864     \renewcommand{\LWR@pagebottom}{#1}%
5865 }

5866 \end{warpall}
```

56 CSS

for HTML output: 5867 \begin{warpHTML}

\LWR@currentcss The css filename to use. This may be changed mid-document using \CSSFilename, allowing different css files to be used for different sections of the document.

```
5868 \newcommand*{\LWR@currentcss}{lwarp.css}
```

\CSSFilename {<new-css-filename.css>} Assigns the css file to be used by the following HTML pages.

```
5869 \newcommand*{\CSSFilename}[1]{%
5870 \renewcommand*{\LWR@currentcss}{#1}%
5871 \@onelvel@sanitize\LWR@currentcss%
5872 }
5873
5874 \end{warpHTML}
```

for PRINT output: 5875 \begin{warpprint}
5876 \newcommand*{\CSSFilename}[1]{}
5877 \end{warpprint}

57 MathJax script

for HTML output: 5878 \begin{warpHTML}

Default: `lwarp_mathjax.txt`

`\LWR@mathjaxfilename` The MathJax script filename to use. This file is copied into the head of each HTML page. This may be changed mid-document using `\MathJaxFilename`, allowing the use of a custom MathJax script, such as for a local repository, or different MathJax script files to be used for different sections of the document.

```
5879 \newcommand*{\LWR@mathjaxfilename}{lwarp_mathjax.txt}
```

`\MathJaxFilename {<filename>}` Assigns the MathJax script file to be used by the following HTML pages.

```
5880 \newcommand*{\MathJaxFilename}[1]{%
5881     \renewcommand*{\LWR@mathjaxfilename}{#1}%
5882     \@onelvel@sanitize\LWR@mathjaxfilename%
5883 }
5884
5885 \end{warpHTML}
```

for PRINT output: 5886 `\begin{warpprint}`
 5887 `\newcommand*{\MathJaxFilename}[1]{}%`
 5888 `\end{warpprint}`

58 Title, HTML meta author, HTML meta description

for HTML output: 5889 `\begin{warpHTML}`

`\title {<title>}` Modified to remember `\thetitle`, which is used to set the HTML page titles.

```
5890 \let\LWR@origtitle\title
5891
5892 \renewcommand*{\title}[1]{%
5893     \LWR@origtitle{#1}%
5894     \begingroup%
5895         \renewcommand{\thanks}[1]{}%
5896         \protected@xdef\thetitle{#1}%
5897     \endgroup%
5898 }
```

```
5899 \end{warpHTML}
```

for HTML & PRINT: 5900 `\begin{warpall}`

`\HTMLTitle {<Titlename>}` The Title to place into an HTML meta tag. The default is to use the document `\title`'s setting.

```
5901 \providecommand{\thetitle}{\BaseJobname}
5902
5903 \newcommand{\theHTMLTitle}{\thetitle}
5904
5905 \newcommand{\HTMLTitle}[1]{\renewcommand{\theHTMLTitle}{#1}}
```

\HTMLAuthor {⟨authorname⟩} The author to place into an HTML meta tag. If none given, the default is \theauthor, which is empty unless the `titling` package is used.

```
5906 \providecommand{\theauthor}{}
5907
5908 \newcommand{\theHTMLAuthor}{\theauthor}
5909
5910 \newcommand{\HTMLAuthor}[1]{\renewcommand{\theHTMLAuthor}{#1}}
```

This is placed inside an HTML meta tag at the start of each file. This may be changed mid-document using \HTMLDescription, allowing different HTML descriptions to be used for different sections of the document.

⚠ **HTML author** Do not use double quotes, and do not exceed 150 characters.

\HTMLDescription {⟨New HTML meta description.⟩} Assigns the HTML file's description meta tag.

```
5911 \newcommand{\LWR@currentHTMLDescription}{}
5912
5913 \newcommand{\HTMLDescription}[1]{%
5914 \renewcommand{\LWR@currentHTMLDescription}{#1}}
5915 }
5916
5917 \end{warpall}
```

59 Footnotes

lwarp uses native L^AT_EX footnote code, although with its own \box to avoid the L^AT_EX output routine. The usual functions mostly work as-is.

footnote numbering To have footnote numbers reset each time footnotes are printed:

```
\setcounter{footnoteReset}{1}
```

For `bigfoot`, `manyfoot`, or `perpage`:

```
\MakePerPage{footnoteX}
— or —
\MakeSortedPerPage{footnoteX}
```

The footnotes are reset when they are printed, according to section level as set by `FootnoteDepth`, which is not necessarily by HTML page. This is recommended for `\alph`, `\Alph`, or `\fnsymbol` footnotes, due to the limited number of symbols which are available.

⚠ **MathJax**, `\footnotemark` If using MATHJAX, after each math expression with a \footnotemark, adjust the footnote counter by the number of \footnotemarks:

```
\[ (math expression with two instances of \footnotemark) \]
\warpHTMLonly{\addtocounter{footnote}{2}}
```

Similarly for `endnotes`, but *not* sidenotes.

Also for MATHJAX, \footnotename is used for a \footnotemark if the actual footnote number is not known. To redefine it, provide it before loading l warp:

```
\providecommand{\footnotename}{something}
\usepackage{l warp}
```

Similar for sidenotes. For endnotes:

```
\def\endnotename{something}% \def allows name to start with "end"
```

For the pagernote package, there is no \pagenotename to define, since there is no \pagenotemark command.

footmisc The footmisc stable option is emulated by l warp.

⚠ sectioning commands

When using footnotes in sectioning commands, to generate consistent results between print and HTML, use the footmisc package with the stable option, provide a short toc entry, and \protect the \footnote:

```
\usepackage[stable]{footmisc}
...
\subsection[Subsection Name]
{Subsection Name\protect\footnote{A footnote.}}
```

memoir with footmisc If using memoir class, with which l warp preloads footmisc, the stable option must be

⚠ memoir

declared before l warp is loaded:

```
\PassOptionsToPackage{stable}{footmisc}
\usepackage{l warp}
...
```

Do not use a starred sectioning command. As an alternative, it may be possible to adjust \secnumdepth instead.

Several kinds of footnotes are used: in a regular page, in a minipage, or as thanks in the titlepage. Each of these is handle differently.

59.1 Regular page footnotes

In HTML documents, footnotes are placed at the bottom of the web page or the section, depending on FootnoteDepth, using the LATEX box \LWR@footnotebox. Using this instead of the original \footins box avoids having footnotes be printed by the output routine, since footnotes should be printed per HTML page instead of per PDF page.

See section 59.4 for the implementation.

59.2 Minipage footnotes

See section 59.5 for how minipage footnotes are gathered. See section 89.4 for how minipage footnotes are placed into the document.

59.3 Titlepage thanks

See section 66.7 for titlepage footnotes.

59.4 Regular page footnote implementation

for HTML & PRINT: 5918 \begin{warpall}

Ctr FootnoteDepth Determines how deeply to place footnotes in the HTML files, similar to tocdepth. The default of 3 places footnotes before each \subsubsection or higher. See table 9 for a table of L^AT_EX section headings.

5919 \newcounter{FootnoteDepth}
5920 \setcounter{FootnoteDepth}{3}

Ctr footnoteReset If non-zero, the footnote counter is reset to this value each time the footnotes are printed, as controlled by FootnoteDepth. For the manyfoot and bigfoot packages, additional counters such as footnote<suffix>Reset will be defined as well. These counters may be set non-zero by the user, and are also set if the perpage's \MakePerPage or \MakeSortedPerPage macros are used for the footnote or footnote<suffix> counters.

(The name is not capitalized because it is made from the counter's name with "Reset" appended.)

5921 \newcounter{footnoteReset}
5922 \setcounter{footnoteReset}{0}

5923 \end{warpall}

for HTML output: 5924 \begin{warpHTML}

\LWR@footnotebox Patch L^AT_EX footnotes to use a new \box instead of an insert for lwarp footnotes. This avoids having the original \footins appear at the bottom of a lateximage, which is on its own new page.

5925 \newbox\LWR@footnotebox

Much of the following has unneeded print-mode formatting removed.

\@makefntext {⟨text⟩}

5926 \long\def\@makefntext#1{\@thefnmark~#1}

\@makefnmark

5927 \def\@makefnmark{%
 5928 \@thefnmark%
 5929 }

Footnotes may be in regular text, in which case paragraphs are tagged, or in a table data cell or `lateximage`, in which case paragraph tags must be added manually.

In a `lateximage` during `HTML` output, the `lateximage` is placed inside a print-mode `minipage`, but the footnotes are broken out by:

```
\def\@mpfn{footnote}
\def\thempfn{\thefootnote}
\let\@footnotetext\LWR@footnotetext
```

`\LWR@@footnotetext {<text>} {<footnote box name>}`

Factored to allow multiple footnote boxes for `manyfoot`.

```
5930 \long\def\LWR@footnotetext#1#2{%
5931 \LWR@traceinfo{\LWR@footnotetext}%
5932 \global\setbox\csname #2\endcsname=\vbox{%
```

Add to any current footnotes:

```
5933 \unvbox\csname #2\endcsname%
```

Remember the footnote number for `\ref`:

```
5934 \protected@edef@\currentlabel{%
5935   \csname p@footnote\endcsname\@thefnmark%
5936 }% \currentlabel
```

Open a group:

```
5937 \color@begingroup%
```

Disable CJK `xpinyin` while generating footnotes.

```
5938 \LWR@disablepinyin%
```

Use `HTML` superscripts in the footnote even when the main text is inside a `lateximage`, because the footnote will be in `HTML`:

```
5939 \renewrobustcmd{\textsuperscript}[1]{\LWR@htmlspan{sup}{##1}}%
```

Use paragraph tags if in a tabular data cell or a `lateximage`:

```
5940 \ifthenelse{%
5941   \boolean{\LWR@doingstartpars} \AND%
5942   \cntttest{\value{\LWR@lateximagedepth}}{=}{0}%
5943 }%
5944 {}%
5945 {\LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline}%
```

Append the footnote to the list:

```
5946 \makefntext{#1}%
```

Closing paragraph tag:

```

5947     \ifthenelse{%
5948         \boolean{LWR@doingstartpars} \AND%
5949         \cntttest{\value{LWR@lateximagedepth}}{=}{0}%
5950     }%
5951     {\par}%
5952     {%
5953         \LWR@htmlltagc{/LWR@tagregularparagraph}%
5954         \LWR@orignewline%
5955     }%

```

Close the group:

```

5956     \color@endgroup%
5957 }% vbox

```

Paragraph handling:

```

5958 \LWR@ensuredoingapar%
5959 }%

```

\LWR@footnotetext {*text*}

```
5960 \long\def\LWR@footnotetext#1{\LWR@footnotetext{#1}{\LWR@footnotebox}}
```

\@footnotetext {*text*}

```
5961 \LetLtxMacro\@footnotetext\LWR@footnotetext
```

59.5 Minipage footnote implementation

Patch L^AT_EX minipage footnotes to use a new \box instead of an insert for lwarp minipage footnotes. This avoids having the original \@mpfootins appear at the bottom of a lateximage, which is on its own new page.

```
5962 \newbox\LWR@mpfootnotes
```

\@mpfootnotetext {*text*}

```

5963 \long\def\@mpfootnotetext#1{%
5964 \LWR@traceinfo{@mpfootnotetext}%
5965 \global\setbox\LWR@mpfootnotes\vbox{%
5966     \unvbox\LWR@mpfootnotes%
5967     \reset@font\footnotesize%
5968     \hsize\columnwidth%
5969     \parboxrestore%
5970     \protected@edef\@currentlabel{%
5971         \csname p@mpfootnote\endcsname\@thefnmark}%
5972     \color@begingroup%

```

Use paragraph tags if in a tabular data cell or a `\textrimage`:

```

5973     \ifthenelse{%
5974         \boolean{LWR@doingstartpars} \AND%
5975         \cnttest{\value{LWR@lateximagedepth}}{=}{0}%
5976     }%
5977     {}%
5978     {\LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline}%

5979     \@makefntext{%
5980         \ignorespaces#1%
5981     }%

```

Don't add the closing paragraph tag if are inside a `\textrimage`:

```

5982     \ifthenelse{\cnttest{\value{LWR@lateximagedepth}}{>}{0}}{%
5983     {}%
5984     {}%
5985     \leavevmode\LWR@orignewline%
5986     \LWR@htmltagc{/}\LWR@tagregularparagraph\%
5987     \LWR@origpar\%
5988     }%
5989     \color@endgroup%
5990 }% vbox

```

Paragraph handling:

```

5991 \LWR@ensuredoingapar%
5992 \LWR@traceinfo{@mpfootnotetext: done}%
5993 }

```

`\thempfootnote` Redefined to remove the `\itshape`, which caused an obscure compiling error in some situations.

```

5994 \AtBeginDocument{%
5995 \def\thempfootnote{@alph{c}@mpfootnote}%
5996 }

```

59.6 Printing pending footnotes

`\LWR@@printpendingfootnotes {⟨footnote counter name⟩}`

```

5997 \newcommand*{\LWR@@printpendingfootnotes}[1]{%
5998 \expandafter\ifvoid\csname LWR@#1box\endcsname\else
5999     \LWR@forcenewpage
6000     \begin{BlockClass}{footnotes}
6001     \null
6002     \unvbox\csuse{\LWR@#1box}
6003     \setbox\csuse{\LWR@#1box}=\vbox{%
6004     \end{BlockClass}
6005     \ifltxcounter{#1Reset}{%

```

```

6006      \ifnumgreater{\value{#1Reset}}{0}{%
6007          \setcounter{#1}{\value{#1Reset}}%
6008          \addtocounter{#1}{-1}%
6009      }{}%
6010  }{}%
6011 \fi
6012 }
```

\LWR@printpendingfootnotes Enclose the footnotes in a class, print, then clear. For `manynotes`, new footnotes may be added via `\appto`.

```

6013 \newcommand*{\LWR@printpendingfootnotes}{%
6014     \LWR@@printpendingfootnotes{footnote}%
6015 }
```

\LWR@maybeprintpendingfootnotes {⟨depth⟩} Used to print footnotes before sections only if formatting for an EPUB or word processor:

```

6016 \newcommand*{\LWR@maybeprintpendingfootnotes}[1]{%
6017 \ifboolexpr{%
6018     not test{\ifnumcomp{#1}{>}{\value{FootnoteDepth}}} or
6019     bool{FormatEPUB} or
6020     bool{FormatWP}
6021 }%
6022 {\LWR@printpendingfootnotes}%
6023 }%
6024 }
```

\LWR@printpendingmpfootnotes Enclose the minipage footnotes in a class, print, then clear.

```

6025 \newcommand*{\LWR@printpendingmpfootnotes}{%
6026 \ifvoid\LWR@mpfootnotes\else
6027     \LWR@forcenewline
6028     \begin{BlockClass}{footnotes}
6029         \null
6030         \unvbox\LWR@mpfootnotes
6031         \setbox\LWR@mpfootnotes=\vbox{%
6032             \end{BlockClass}
6033 \fi
6034 }
```

```
6035 \end{warpHTML}
```

60 Marginpars

\marginpar [⟨left⟩] {⟨right⟩} \marginpar may contains paragraphs, but in order to remain inline with the surrounding text `lwarp` nullifies block-related macros inside the `\marginpar`. Paragraph breaks are converted to `
` tags.

\marginparBlock [⟨left⟩] {⟨right⟩} To include block-related macros, use `\marginparBlock`, which

takes the same arguments but creates a <div> instead of a . A line break will occur in the text where the \marginBlock occurs.

for HTML output: 6036 \begin{warpHTML}

\marginpar [⟨left⟩] {⟨right⟩}

```
6037 \renewcommand{\marginpar}[2][]{%
6038 \ifbool{FormatWP}{%
6039 {%
6040 \begin{LWR@BlockClassWP}{width:2in; float:right; margin:10pt}{}{marginblock}%
6041 #2
6042 \end{LWR@BlockClassWP}
6043 }%
6044 {%
6045     \LWR@htmlspanclass{\marginpar}{#2}%
6046 }%
6047 }
```

\marginparBlock [⟨left⟩] {⟨right⟩}

For use when the marginpar will be more than one paragraph, and/or contains more than simple text.

HTML version.

```
6048 \newcommand{\marginparBlock}[2][]{%
6049 \LWR@stoppars%
6050 \ifbool{FormatWP}{%
6051 {%
6052     \begin{LWR@BlockClassWP}{width:2in; float:right; margin:10pt}{}{marginblock}%
6053     #2
6054     \end{LWR@BlockClassWP}
6055 }{%
6056     \begin{BlockClass}{width:2in; float:right; margin:10pt}{marginparblock}%
6057     #2
6058     \end{BlockClass}
6059 }%
6060 \LWR@startpars%
6061 }
```

\reversemarginpar

```
6062 \renewcommand*{\reversemarginpar}{}{}
```

\normalmarginpar

```
6063 \renewcommand*{\normalmarginpar}{}{}
```

```
6064 \end{warpHTML}
```

for PRINT output: 6065 \begin{warpprint}

```
\marginparBlock [⟨left⟩] {⟨right⟩}
```

For use when the marginpar will be more than one paragraph, and/or contains more than simple text.

Print version.

```
6066 \LetLtxMacro\marginparBlock\marginpar
```

```
6067 \end{warpprint}
```

61 Splitting HTML files

- Files are split according to `FileDepth` and `CombineHigherDepths`.
- Filenames are sanitized by `\LWR@filenamenoblanks`.
- `\LWR@newhtmlfile` finishes an HTML page, adds a comment to tell where and how to split the file, then starts a new HTML page.

for HTML & PRINT: 6068 `\begin{warpall}`

`Ctr FileDepth {⟨section depth⟩}` determines how deeply to break into new HTML files, similar to `tocdepth`. The default of -5 produces one large HTML file.

```
6069 \newcounter{FileDepth}
6070 \setcounter{FileDepth}{-5}
```

`Bool CombineHigherDepths` Combiile higher-level sections together into one file?

```
6071 \newbool{CombineHigherDepths}
6072 \booltrue{CombineHigherDepths}
```

`\FilenameLimit` Maximum length of the generated filenames.

```
6073 \newcommand*\{\FilenameLimit\}{80}
```

```
6074 \end{warpall}
```

for HTML output: 6075 `\begin{warpHTML}`

`\LWR@thisfilename` The currently-active filename or number. At first, this is the homepage.

```
6076 \AtBeginDocument{
6077 \ifbool{FileSectionNames}%
6078   {\newcommand*\{\LWR@thisfilename\}{\HomeHTMLfilename}}
6079   {\newcommand*\{\LWR@thisfilename\}{0}}
6080 }
```

\LWR@thisfilename The filename being sanitized.

```
6081 \newcommand*{\LWR@thisfilename}{}%
```

\LWR@simplifyname * {*expression*} Simplify \LWR@thisfilename.

If starred, detokenizes the input expression. If found, changes the expression to a single detokenized dash.

```
6082 \NewDocumentCommand{\LWR@simplifyname}{s m}{%
6083 \IfBooleanTF{#1}{%
6084   \StrSubstitute{\LWR@thisfilename}%
6085   {\detokenize{#2}}%
6086   {\detokenize{-}}[\LWR@thisfilename]%
6087 }{%
6088   \StrSubstitute{\LWR@thisfilename}%
6089   {#2}%
6090   {\detokenize{-}}[\LWR@thisfilename]%
6091 }
6092 }
```

\LWR@simplifycustom User-defined filename simplifications. Redefine with \newcommand.

```
6093 \newcommand*{\LWR@simplifycustom}{}%
```

\FilenameSimplify * {*phrase*} Assign a user-defined filename simplification. Appends to \LWR@simplifycustom.

```
6094 \NewDocumentCommand{\FilenameSimplify}{s m}{%
6095 \IfBooleanTF{#1}{%
6096   \appto{\LWR@simplifycustom}{%
6097     \LWR@simplifyname*{#2}}%
6098 }{%
6099 }{%
6100   \appto{\LWR@simplifycustom}{%
6101     \LWR@simplifyname{#2}}%
6102 }{%
6103 }%
6104 }
```

\LWR@filenamenoblanks {*filename*}

Convert blanks into dashes, removes short words, store result in \LWR@thisfilename.

Also see \LWR@nullfonts for nullified macros.

```
6105 \newcommand*{\LWR@filenamenoblanks}[1]{%
6106 \begingroup
```

Locally temporarily disable direct-formatting commands, not used in filenames:

```
6107 \LWR@nullfonts%
6108 \renewcommand*\{\LWR@htmlltagc}[1]{ }%
```

```
6109 \edef\LWR@thisfilename{\#1}%
```

Replaces common macros with hyphens. (\& is done by \LWR@nullfonts.)

```
6110 \RenewDocumentCommand{\LWR@subsingle$}{s m m m}{ }%
6111 \LWR@simplifyname{\_}
6112 \LWR@simplifyname{\#}
6113 \LWR@simplifyname{\textbackslash}
6114 \LWR@simplifyname{\protect}
6115 \LWR@simplifyname{\ }
6116 \LWR@simplifyname{\textless}
6117 \LWR@simplifyname{\textgreater}
```

```
6118 \edef\LWR@thisfilename{\detokenize\expandafter{\LWR@thisfilename}}%
```

```
6119 \LWR@traceinfo{\LWR@filenamenoblanks edef: !\LWR@thisfilename!}%
6120 \fullexpandarg%
```

Convert spaces into hyphens:

```
6121 \LWR@simplifyname*{ }
```

Convert punctuation into hyphens:

```
6122 \LWR@simplifyname*{!}
6123 \LWR@simplifyname*{,}
6124 \LWR@simplifyname*{'}
6125 \LWR@simplifyname*{+}
6126 \LWR@simplifyname*{,}
6127 \LWR@simplifyname*{/}
6128 \LWR@simplifyname*{:}
6129 \LWR@simplifyname*{;}
6130 \LWR@simplifyname*{=}
6131 \LWR@simplifyname*{?}
6132 \LWR@simplifyname*{@}
6133 \LWR@simplifyname*{^}
6134 \LWR@simplifyname*{&}
6135 \LWR@simplifyname*{"}
6136 \LWR@simplifyname*{<}
6137 \LWR@simplifyname*{>}
```

```
6138 \LWR@simplifyname{\LWRbackslash}
```

Braces are removed entirely to avoid extra dashes in the result.

```
6139 \StrSubstitute{\LWR@thisfilename}%
6140   {\LWRleftbrace}{}[\LWR@thisfilename]%
6141 \StrSubstitute{\LWR@thisfilename}%
6142   {\LWRrightbrace}{}[\LWR@thisfilename]%
```

```

6143 \LWR@simplifyname{\LWRpercent}
6144 \LWR@simplifyname{\LWRdollar}

6145 \LWR@simplifyname*{ | }
6146 \LWR@simplifyname*{ ^ }
6147 \LWR@simplifyname*{ ~ }
6148 \LWR@simplifyname*{ [ ]
6149 \LWR@simplifyname*{ ] }
6150 \LWR@simplifyname*{ ' }
```

Convert short words:

```

6151 \LWR@simplifyname*{-s-}
6152 \LWR@simplifyname*{-S-}
6153 \LWR@simplifyname*{-a-}
6154 \LWR@simplifyname*{-A-}
6155 \LWR@simplifyname*{-an-}
6156 \LWR@simplifyname*{-AN-}
6157 \LWR@simplifyname*{-to-}
6158 \LWR@simplifyname*{-TO-}
6159 \LWR@simplifyname*{-by-}
6160 \LWR@simplifyname*{-BY-}
6161 \LWR@simplifyname*{-of-}
6162 \LWR@simplifyname*{-OF-}
6163 \LWR@simplifyname*{-and-}
6164 \LWR@simplifyname*{-AND-}
6165 \LWR@simplifyname*{-for-}
6166 \LWR@simplifyname*{-FOR-}
6167 \LWR@simplifyname*{-the-}
6168 \LWR@simplifyname*{-THE-}
```

Convert custom words:

```
6169 \LWR@simplifycustom%
```

Convert multiple hyphens:

```

6170 \LWR@simplifyname*{----}
6171 \LWR@simplifyname*{---}
6172 \LWR@simplifyname*{--}
6173 \LWR@simplifyname*{--}
```

If pdflATeX and not utf8 encoding, don't try to convert emdash, endash:

```

6174 \ifPDFTeX% pdflatex or dvi latex
6175 \ifdefstring{\inputencodingname}{utf8}{%
6176 \LWR@simplifyname*{--}
6177 %      emdash
6178 \LWR@simplifyname*{--}
6179 %      endash
6180 }{}%
6181 \else% not PDFTeX
6182 \LWR@simplifyname*{--}
6183 \LWR@simplifyname*{--}
6184 \fi%
```

If starts with a dash, remove the leading dash:

```
6185 \IfBeginWith{\LWR@thisnewfilename}{\detokenize{-}}{%
6186     \StrGobbleLeft{\LWR@thisnewfilename}{1}[\LWR@thisnewfilename]%
6187 }{}}
```

If ends with a dash, remove the trailing dash:

```
6188 \IfEndWith{\LWR@thisnewfilename}{\detokenize{-}}{%
6189     \StrGobbleRight{\LWR@thisnewfilename}{1}[\LWR@thisnewfilename]%
6190 }{}}
```

Limits the length of the filename:

```
6191 \StrLeft{\LWR@thisnewfilename}{\FilenameLimit}[\LWR@thisnewfilename]{}
```

Return the global result:

```
6192 \global\let\LWR@thisfilename\LWR@thisnewfilename%
6193 \endgroup%
6194 \LWR@traceinfo{\LWR@filenamenoblanks: result is \LWR@thisfilename}%
6195 }
```

Ctr Remembers which autopage label was most recently generated. Used to avoid duplicates.

```
6196 \newcounter{\LWR@previousautopagelabel}%
6197 \setcounter{\LWR@previousautopagelabel}{-1}
```

File `*_html.aux` A new entry in the `*_html.aux` file is used to help cross-references:

```
\newlabel{autpage-<nnn>}{{<x>}{<y>}}
```

```
\LWR@newautopagelabel {\langle pagenumber counter \rangle}
```

`\BaseJobname` is added to the label in case `xr` or `xr-hyper` are used.

```
6198 \newcommand*{\LWR@newautopagelabel}[1]{%
6199 \ifnumequal{\value{\LWR@previousautopagelabel}}{\value{page}}{%
6200 }{}% no action if this autopage label has already been defined
6201 }%
6202 \label{\BaseJobname-autopage-\arabic{#1}}%
6203 \setcounter{\LWR@previousautopagelabel}{\value{page}}%
6204 }%
6205 }
```

61.1 Sanitizing expressions for HTML

Math expressions are converted to `lateximages`, and some math environments may contain `&`, `<`, or `>`, which should not be allowed inside an HTML `<alt>` tag, so must convert them to HTML entities.

```
\LWR@replacestrings {⟨search⟩} {⟨replace⟩}
```

Replaces strings inside \tmpb.

Modified from the original by PETR OLSAK, from the **opmac** package.

```
6206 \bgroup
6207 \catcode`!=3 \catcode`?=3
6208
6209 \long\gdef\LWR@replacestrings@addto#1#2{%
6210   \expandafter\def\expandafter#1\expandafter{#1#2}%
6211 }
6212
6213 \gdef\LWR@replacestrings#1#2{%
6214   \long\def\LWR@replacestringsA##1#1{\def\tmpb{##1}\LWR@replacestringsB}%
6215   \long\def\LWR@replacestringsB##1#1{%
6216     \ifx!##1\relax \else\LWR@replacestrings@addto\tmpb{##1}%
6217     \expandafter\LWR@replacestringsB\fi%
6218   }%
6219   \improved{improved version <May 2016> inspired by Petr Krajnik}
6220   \long\def\LWR@replacestringsA##1#1{%
6221     \def\tmpb{##1}%
6222   }\expandafter\LWR@replacestringsA\tmpb%
6223 }
6224 \egroup
```

\LWR@subHTMLsanitize \LWR@strresult must first be set by \LWR@HTMLsanitize, \LWR@HTMLsanitizeexpand, or \CustomizeMathJax.

```
6225 \catcode`\#=12
6226 \catcode`\&=12
6227 \newcommand{\LWR@subHTMLsanitize}{%
```

The &, <, and > may be interpreted by the browser:

```
6228 \edef\tmpb{\detokenize\expandafter{\LWR@strresult}}%
6229 \LWR@replacestrings{&}{&}%
6230 \LWR@replacestrings{<}{<}%
6231 \LWR@replacestrings{>}{>}%
```

The double quote occasionally causes problems.

```
6232 \LWR@replacestrings{"}{"}%
```

MathJax allows expressions to be defined with \newcommand. These expressions would appear with ## for each argument, and each must be changed to a single #. This must be done after all the above changes. Attempting another conversion after this causes an error upon further expansion.

```
6233 \LWR@replacestrings{##}{#}%
6234 \edef\LWR@strresult{\detokenize\expandafter{\tmpb}}%
6235 }
6236 \catcode`\#=6
6237 \catcode`\&=4
```

```
\LWR@HTMLsanitize {<text>}

6238 \newrobustcmd{\LWR@HTMLsanitize}[1]{%
```

Cancel French **babel** character handling, and fully expand the strings:

```
6239  \begingroup%
6240  \LWR@FBcancel%
6241  \fullexpandarg%
6242  \protect\StrSubstitute{\detokenize{#1}}%
6243  {\detokenize{\&}{\detokenize{\&}{[\LWR@strresult]}%}
6244  \LWR@subHTMLsanitize%
6245  \LWR@strresult%
6246  \endgroup%
6247 }
```

```
\LWR@HTMLsanitizeexpand {<text>}
```

This version expands the argument before sanitizing it.

```
6248 \newrobustcmd{\LWR@HTMLsanitizeexpand}[1]{%
```

Cancel French **babel** character handling, and fully expand the strings:

```
6249  \begingroup%
6250  \LWR@FBcancel%
6251  \fullexpandarg%
```

The difference between this and `\LWR@HTMLsanitize` (without “expand”) is the following `\expandafter`:

```
6252  \protect\StrSubstitute{\detokenize\expandafter{#1}}%
6253  {\detokenize{\&}{\detokenize{\&}{[\LWR@strresult]}%}
6254  \LWR@subHTMLsanitize%
6255  \LWR@strresult%
6256  \endgroup%
6257 }
```

61.2 Customizing MATHJAX

```
\LWR@customizedMathJax Additional MATHJAX definitions to be added to the start of each HTML page.
```

```
6258 \newcommand*{\LWR@customizedMathJax}{}%
```

`Bool` Used to issue only one warning about using a `\CustomizeMathJax` per macro.

`LWR@warnedcustomizemathjax`

```
6259 \newbool{\LWR@warnedcustomizemathjax}
6260 \boolfalse{\LWR@warnedcustomizemathjax}
```

\LWR@subcustomizedmathjax {*macro definition*}

```

6261 \newcommand*{\LWR@subcustomizedmathjax}[1]{%
6262     \begingroup%
6263     \LWR@FBcancel%
6264     \fullexpandarg%
6265     \protect\StrSubstitute{\detokenize{#1}}{%
6266         {\detokenize{\&}}{\detokenize{\&}}[\LWR@strresult]}{%
6267         \LWR@subHTMLsanitize%
6268         \xdef\LWR@customizedMathJax{%
6269             \LWR@customizedMathJax%
6270             \LWR@strresult%
6271         }%
6272     \endgroup%
6273 }
6274 \@onlypreamble\LWR@subcustomizedmathjax

```

\CustomizeMathJax {*macro definition*}

A warning is issued if a very long argument is given.

```

6275 \newcommand*{\CustomizeMathJax}[1]{%
6276     \ifbool{\LWR@warnedcustomizemathjax}{}{%
6277         \StrLen{\detokenize{#1}}[\LWR@tempone]{%
6278             \ifnumgreater{\LWR@tempone}{200}{%
6279                 \AtBeginDocument{%
6280                     \PackageWarningNoLine{lwarf}{%
6281                         To ensure faster MathJax compilation, place each\MessageBreak
6282                         custom macro in its own \protect\CustomizeMathJax.\MessageBreak
6283                         See the Lwarp documentation regarding customizing\MessageBreak
6284                         MathJax%
6285                 }%
6286             }%
6287             \booltrue{\LWR@warnedcustomizemathjax}%
6288         }{}%
6289     }%
6290     \appto{\LWR@customizedMathJax}{\LWRbackslash()}%
6291     \LWR@subcustomizedmathjax{#1}%
6292     \appto{\LWR@customizedMathJax}{\LWRbackslash}\par}%
6293 }
6294 \@onlypreamble\CustomizeMathJax

```

\LWR@infoprocessingmathjax {*package name*}

```

6295 \newcommand*{\LWR@infoprocessingmathjax}[1]{%
6296 \typeout{---}
6297 \typeout{Package lwarf: Processing MathJax customizations for #1.}
6298 \typeout{\space\space This may take a moment.}
6299 \typeout{---}
6300 }

```

defaults Default customizations:

In the MATHJAX code, footnotes are only referenced. For equations, they are also generated in the HTML when the LATEX math is generated inside the HTML comment. For other math environments, the \footnotemark/\footnotetext method must be used. See section 8.5.4 regarding \footnotemark.

⚠ **\footnotemark**

For footnotes, \footnotename is used in most cases, however for equation the footnote is picked up from LATEXin \LWR@doendequation.

First, \footnotename for MATHJAX is copied from LATEX.

```

6301 \providecommand{\footnotename}{\footnote}
6302
6303 % due to warpMathJax:
6304 \end{warpHTML}
6305
6306 \begin{warpMathJax}
6307 \xdef\LWR@customizedMathJax{\LWR@customizedMathJax%
6308     \LWRbackslash(%
6309     \LWRbackslash{}newcommand%
6310     \{\LWRbackslash{}footnotename\}%
6311     \{\footnotename\}%
6312     \LWRbackslash)\par%
6313 }
6314 \end{warpMathJax}
```

\LWRfootnote is set per equation if a footnote is detected in the equation's math expression, otherwise it defaults to \footnotename.

```

6315 \begin{warpMathJax}
6316 \CustomizeMathJax{\def\LWRfootnote{1}}
6317 \CustomizeMathJax{\newcommand{\footnote}[2][\LWRfootnote]{{}^{\mathrm{#1}}}}
6318 \CustomizeMathJax{\newcommand{\footnotemark}[1][\LWRfootnote]{{}^{\mathrm{#1}}}}
6319 \end{warpMathJax}

6320 \begin{warpMathJax}
6321 \CustomizeMathJax{\newcommand\ensuremath[1]{#1}}
6322 \CustomizeMathJax% absorb two optional arguments
6323     \newcommand{\LWRframebox}[2][]{\fbox{#2}}
6324     \newcommand{\framebox}[1][]\LWRframebox
6325 }
6326 \CustomizeMathJax{\newcommand{\setlength}[2][]}
6327 \CustomizeMathJax{\newcommand{\addtolength}[2][]}
6328 \CustomizeMathJax{\newcommand{\setcounter}[2][]}
6329 \CustomizeMathJax{\newcommand{\addtocounter}[2][]}
6330 \CustomizeMathJax{\newcommand{\cline}[1][]}
6331 \CustomizeMathJax{\newcommand{\directlua}[1]{\text{((directlua))}}}
6332 \CustomizeMathJax{\newcommand{\luatexdirectlua}[1]{\text{((directlua))}}}
6333 \end{warpMathJax}
6334
6335 \begin{warpHTML}% due to warpMathJax
```

\LWR@customizeMathJax Prints MathJax commands to the HTML output.

```
6336 \newcommand{\LWR@customizeMathJax}{%
```

```

6337 \ifbool{mathjax}{

6338 \LWR@stoppars
6339 \LWR@htmlcomment{MathJax customizations:}
6340
6341 \typeout{---}
6342 \typeout{Package lwarp:}
6343 \typeout{Processing MathJax customizations. If this takes too long,}
6344 \typeout{see the Lwarp manual regarding customizing MathJax.}
6345 \begin{BlockClass}{hidden}
6346 \LWR@stoppars
6347 \LWR@customizedMathJax
6348 \LWR@startpars
6349 \end{BlockClass}
6350 \typeout{---}
6351
6352 \LWR@startpars
6353 }()
6354 }

6355 \end{warpHTML}
```

for PRINT output: 6356 \begin{warpprint}

\CustomizeMathJax The print-mode version:

```

6357 \newcommand*{\CustomizeMathJax}[1]{

\FilenameSimplify * {\langle expression \rangle}

6358 \NewDocumentCommand{\FilenameSimplify}{s m}{}}

6359 \end{warpprint}
```

for HTML output: 6360 \begin{warpHTML}

\LWR@newhtmlfile {\langle section name \rangle}

Finishes the current HTML page with footnotes, footer, navigation, then starts a new HTML page with an HTML comment telling where to split the page and what the new filename and css are, then adds navigation, side toc, header, and starts the text body.

```

6361 \newcommand*{\LWR@newhtmlfile}[1]{
6362 \LWR@traceinfo{\LWR@newhtmlfile}
```

At the bottom of the ending file:

```

6363 \LWR@htmlelementclassend{section}{textbody}
6364 \LWR@htmlelementclassend{div}{bodycontainer}
6365 \LWR@htmlelementclassend{div}{bodyandsidetoc}
6366
6367 \LWR@printpendingfootnotes
6368
```

No footer between files if EPUB:

```

6369 \ifbool{FormatEPUB}
6370 {}
6371 {

6372     \ifdefempty{\LWR@pagebottom}{}{%
6373         \LWR@htmlelement{footer}
6374
6375         \LWR@pagebottom
6376
6377         \LWR@htmlelementend{footer}
6378     }
6379 }
```

No bottom navigation if are finishing the home page or formatting for EPUB or a word-processor.

```

6380 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
6381     {}
6382     {\ifnumcomp{\value{LWR@htmlfilename}}{>}{0}{\LWR@botnavigation}{}}
```

End of this HTML file:

```

6383 \LWR@stopars
6384 \LWR@htmlelement{/body}\LWR@orignewline
6385 \LWR@htmlelement{/html}\LWR@orignewline
6386 \LWR@traceinfo{\LWR@newhtmlfile: about to \LWR@orignewline}
6387 \LWR@orignewline
6388
6389 \addtocounter{LWR@htmlfilename}{1}%
```

If using a filename based on section name, create a version without blanks. The filename without blanks will be placed into \LWR@thisfilename. Duplicates will be detected using MD5 hashes.

If not using a filename, the file number will be used instead.

```

6390 \ifbool{FileSectionNames}%
6391 {%
```

Convert the section name to a filename with blanks and common words removed. The resulting filename is in \LWR@thisfilename.

```
6392     \LWR@filenamenoblanks{#1}%
```

Create a macro name from the MD5 hash of the file name, to detect duplicates:

```
6393     \edef\LWR@hashedname{\LWR@mdfive{\LWR@thisfilename}}%
```

If the macro name is not yet defined, this filename is unique.

```
6394     \ifcsundef{LWR@filename\LWR@hashedname}{%
```

If the filename is unique, create a macro using the hashed name, to be used to test for additional duplicates in the future.

```
6395      \csdef{\LWR@filename\LWR@hashedname}{}%
6396      }{%
```

If the filename is not unique, create an error.

```
6397      \PackageError{lwarp}{%
6398      Section name\MessageBreak
6399      ‘‘#1’’,\MessageBreak
6400      at the line number listed below,\MessageBreak
6401      generates the filename\MessageBreak
6402      ‘‘\LWR@thisfilename’’,\MessageBreak
6403      which appears to be a duplicate.\MessageBreak
6404      There is a previous section with an\MessageBreak
6405      identical or similar name%
6406      }%
6407      }%
6408      }%
6409      Lwarp sanitizes most symbols and a few common short words
6410      when generating file names, and this may cause a conflict.
6411      }%
6412      }%
6413 }
```

If using file numbers instead of names, the name is set to the next file number.

```
6414 {\renewcommand*{\LWR@thisfilename}{\arabic{\LWR@htmldenumber}}}
```

Include an HTML comment to instruct lwarpmk where to split the files apart. Uses pipe-separated fields for `split_html.gawk`. Uses monospaced font with ligatures disabled for everything except the title.

```
6415 \LWR@traceinfo{\LWR@newhtmlfile: about to print start file}%
```

`\LWR@nullfonts` to allow math in a section name.

```
6416 \begingroup%
6417 \LWR@nullfonts%
6418 \LWR@htmlblockcomment{%
6419 |Start file|%
6420 \LWR@htmlsectionfilename{\LWR@thisfilename}|%
6421 }
6422 \endgroup%
```

At the top of the starting file:

```
6423 \LWR@stopars
6424
```

Start a new file with the given section name:

```
6425 \LWR@filestart[#1]  
6426
```

Track the page numbers:

```
6427 \setcounter{LWR@latestautopage}{\value{page}}%  
6428 \LWR@newautopagelabel{LWR@latestautopage}%
```

No navigation between files if formatting for an EPUB or word processor:

```
6429 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}  
6430   {}  
6431   {\LWR@topnavigation}  
6432
```

No header if between files if formatting for an EPUB or word processor:

```
6433 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}  
6434   {}  
6435   {  
  
6436     \ifdefempty{\LWR@pagetop}{}{  
6437       \LWR@htmlelement{header}  
6438  
6439       \LWR@pagetop  
6440  
6441       \LWR@htmlelementend{header}  
6442     }  
6443   }  
6444
```

The container for the sidetoc and text body:

```
6445 \LWR@htmlelementclass{div}{bodyandsidetoc}
```

No sidetoc if formatting for an EPUB or word processor:

```
6446 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}  
6447   {}  
6448   {\LWR@sidetoc}  
6449
```

Start of the <textbody>:

```
6450 \LWR@htmlelementclass{div}{bodycontainer}  
6451 \LWR@htmlelementclass{section}{textbody}  
6452
```

Print title only if there is one. Skip if formatting for an EPUB or word processor:

```
6453 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}%  
6454   {}%  
6455   {}%
```

```

6456      \ifcsvoid{thetitle}{}{%
6457          \LWR@printthetitle%
6458      }%
6459  }%

```

Keep paragraph tags disabled for now:

```

6460 \LWR@stopars
6461

```

If using MATHJAX, print the customizations here.

```

6462 \LWR@customizeMathJax

```

```

6463 \LWR@traceinfo{\LWR@newhtmlfile: done}
6464 }

```

```

6465 \end{warpHTML}

```

62 Sectioning

Sectioning and cross-references have been emulated from scratch, rather than try to patch several layers of existing L^AT_EX code and packages. Formatting is handled by css, so the emulated code has much less work to do than the print versions.

Unicode Section names and the resulting filenames with accented characters are partially supported, depending on the ability of *pdflatex* to generate characters and *pdftotext* to read them. If extra symbols appear in the text, it may be that *pdflatex* is actually producing a symbol over or under a character, resulting in *pdftotext* picking up the accent symbol separately.

accents in filenames X^EL^AT_EX and Lua^EL^AT_EX directly support accented section and file names.

for HTML output: 6466 \begin{warpHTML}

62.1 User-level starred section commands

\ForceHTMLPage For HTML output, forces the next section to be on its own HTML page, if FileDepth allows, even if starred. For use with \printindex and others which generate a starred section which should be on its own HTML page. Also see \ForceHTMLTOC.

For print output, no effect.

```

6467 \newbool{\LWR@forcinghtmlpage}
6468 \boolfalse{\LWR@forcinghtmlpage}
6469
6470 \newcommand*{\ForceHTMLPage}{%
6471 \global\booltrue{\LWR@forcinghtmlpage}%
6472 }

```

\ForceHTMLTOC For HTML output, forces the next section to have a TOC entry, even if starred. For use with \printindex and others which generate a starred section which should be in the TOC so that it may be accessed via HTML. Not necessary if used with tocbibind. Also see \ForceHTMLPage.

For print output, no effect.

```

6473 \newbool{LWR@forcinghtmltoc}
6474 \boolearn{LWR@forcinghtmltoc}
6475
6476 \newcommand*\{\ForceHTMLTOC}{%
6477 \global\boolearn{LWR@forcinghtmltoc}%
6478 }

6479 \end{warpHTML}
```

for PRINT output: 6480 \begin{warpprint}
6481 \newcommand*\{\ForceHTMLPage}{}
6482 \newcommand*\{\ForceHTMLTOC}{}
6483 \end{warpprint}

for HTML output: 6484 \begin{warpHTML}

62.2 Book class commands

\mainmatter Declare the main matter section of the document. Does not reset the page number, which must be consecutive arabic numbers for the HTML conversion.

```

6485 \newbool{LWR@mainmatter}
6486 \DeclareDocumentCommand{\mainmatter}{}{%
6487 \boolearn{LWR@mainmatter}%
6488 }
```

\frontmatter Declare the front matter section of the document, using arabic numbering for the internal numbering. Does not reset the page number.

```

6489 \DeclareDocumentCommand{\frontmatter}{}{%
6490 \boolearn{LWR@mainmatter}%
6491 }
```

\backmatter Declare the back matter section of the document. Does not reset the page number.

```

6492 \DeclareDocumentCommand{\backmatter}{}{%
6493 \boolearn{LWR@mainmatter}%
6494 }
```

62.3 Sectioning support macros

\LWR@sectionnumber {\langle section type\rangle}

Typeset a section number and its trailing space with css formatting:

```
6495 \newcommand*{\LWR@sectionnumber}[1]{%
6496 \InlineClass{sectionnumber}{#1}%
6497 }
```

autosec A tag used by the **toc** and **index**.

\LWR@createautosec {*<section type>*}

Create an autosection tag.

```
6498 \newcommand*{\LWR@createautosec}[1]{%
6499 \LWR@htmntag{%
6500 #1 % space
6501 id=\textquotedbl\LWR@print@mbox{autosec-\arabic{page}}\textquotedbl%
6502 }%
6503 }
```

\LWR@pushoneclose {*<sectiontype>*} Stacks the new sectioning level's closing tag, to be used when this section is closed some time later.

⚠ \LWR@stoppars must be executed first.

```
6504 \NewDocumentCommand{\LWR@pushoneclose}{m}{%
6505 \LWR@traceinfo{\LWR@pushoneclose #1}%
6506 \LWR@pushclose{#1}%
6507 }
```

\LWR@startnewdepth {*<sectiontype>*}

Closes currently stacked tags of a lesser level, then opens the new nesting level by saving this new sectioning level's closing tag for later use.

⚠ \LWR@stoppars must be executed first.

```
6508 \NewDocumentCommand{\LWR@startnewdepth}{m}{%
```

Close any stacked sections up to this new one.

```
6509 \LWR@closeprevious{#1}%
```

Push a new section depth:

```
6510 \LWR@pushoneclose{#1}%
6511 }
```

Ctr LWR@prevFileDepth Remembers the previous **LWR@FileDepth**.

Initialized to a deep level so that any section will trigger a new **HTML** page after the home page.

```
6512 \newcounter{LWR@prevFileDepth}
6513 \setcounter{LWR@prevFileDepth}{\LWR@depthsubparagraph}
```

\@secCntformat {⟨sectiontype⟩}

```
6514 \def\@secCntformat#1{\csname the#1\endcsname\quad}
```

\simplechapterdelim Used by `tocbibind` and `anonchap`.

```
6515 \newcommand*\simplechapterdelim{}
```

\@chapCntformat {⟨sectiontype⟩}

\let to \@secCntformat by default, but may be redefined by `simplechapter` and `\restorechapter` from `tocbibind` or `anonchap`.

```
6516 \let\@chapCntformat\@secCntformat
```

\@partCntformat {⟨sectiontype⟩}

\let to \@secCntformat by default, but may be redefined by `ctex`.

```
6517 \let\@partCntformat\@secCntformat
```

\@partNameformat Prints “Part” for part sections.

Nullified by `ctex`.

```
6518 \newcommand*\@partNameformat{\LWR@isolate{\partname}~}%
```

Ctr LWR@currentautosec Records the page number when the section was created. If a math expression is included in the section name, and SVG math is used, the corresponding `lateximage` will cause the page number to change by the time the following autosec label is created.

```
6519 \newcounter{LWR@currentautosec}
6520 \setcounter{LWR@currentautosec}{1}
```

\LWR@section * [⟨TOC name⟩] {⟨name⟩} {⟨sectiontype⟩}

The common actions for the high-level sectioning commands.

```
6521 \DeclareDocumentCommand{\LWR@section}{m m m m}{%
6522 \IfValueTF{#2}{%
6523   {\LWR@traceinfo{LWR@section: starting #4 #2}}%
6524   {\LWR@traceinfo{LWR@section: starting #4 #3}}%
6525 \LWR@maybeprintpendingfootnotes{\csuse{LWR@depth#4}}%
6526 \LWR@stoppars%
6527 \LWR@startnewdepth{#4}}%
```

Cancel special `minipage` horizontal space interaction:

```
6528 \global\boolfalse{LWR@minipagethispar}%
```

Start a new HTML file unless starred, and if is a shallow sectioning depth.

Exception: Also start a new HTML file for `\part*`, for `appendix`.

Generate a new L^AT_EX page so that TOC and index page number points to the section:

```
6529 \LWR@traceinfo{LWR@section: testing whether to start a new HTML file}%
6530 \IfBooleanT{#1}{\LWR@traceinfo{LWR@section: starred}}%
6531 \ifbool{LWR@forcinghtmlpage}{\LWR@traceinfo{LWR@section: forcinghtmlpage}}{}%
6532 \ifthenelse{%
6533   \(%
6534     \(\NOT\equal{#1}{\BooleanTrue}\)\OR%
6535     \(\cnttest{\@nameuse{LWR@depth#4}}{=}{\LWR@depthpart}\)\OR%
6536     \(\boolean{LWR@forcinghtmlpage}\)%
6537   \)%
6538   \AND%
6539   \cnttest{\@nameuse{LWR@depth#4}}{<=}{\value{FileDepth}}%
6540   \AND%
6541   \(%
6542     \NOT\boolean{CombineHigherDepths}\OR%
6543     \cnttest{\@nameuse{LWR@depth#4}}{<=}{\value{LWR@prevFileDepth}}%
6544   \)%
6545   \AND%
6546   \(% phantomsection
6547     \NOT\isempty{#3}%
6548     \OR%
6549     \(\NOT\equal{#1}{\BooleanTrue}\)%
6550   \)%
6551 }%
```

If so: start a new HTML file:

```
6552 {%
6553   new file
6553   \LWR@traceinfo{LWR@section: new HTML file}%
}
```

See if there was an optional TOC name entry:

```
6554 \IfNoValueTF{#2}{%
```

If no optional entry

```
6555   {\LWR@newhtmlfile{#3}}%
```

If yes an optional entry

```
6556   {\LWR@newhtmlfile{#2}}%
6557 }% new file
```

Else: No new HTML file:

```
6558 { % not new file
```

Generate a new L^AT_EX page so that TOC and index page number points to the section:

```
6559     \LWR@traceinfo{\LWR@section: not a new HTML file, about to \LWR@orignewpage}%
6560     \LWR@orignewpage%
6561 }% not new file
6562
```

Remember this section's name for \nameref:

```
6563 \IfValueT{#3}{%
6564     \LWR@traceinfo{\LWR@section: about to \LWR@setlatestname}%
6565     \IfValueTF{#2}{\LWR@setlatestname{#2}}{\LWR@setlatestname{#3}}%
6566 }%
```

Print an opening comment with the level and the name; ex: “section” “Introduction” Footnotes may be used in section names, which would also appear in the HTML section opening comments, so the short TOC entry is used if possible, and a limited opening comment is made if the sectional unit is starred.

```
6567 \ifbool{HTMLDebugComments}{%
6568     \begingroup%
6569     \LWR@nullfonts%
6570     \IfBooleanTF{#1}{% starred
6571         {\LWR@htmlcomment{Opening #4*}}%
6572         {%
6573             \IfNoValueTF{#2}{% short TOC
6574                 {\LWR@htmlcomment{Opening #4 ‘#3’}}%
6575                 {\LWR@htmlcomment{Opening #4 ‘#2’}}%
6576             }\LWR@orignewline%
6577             \endgroup%
6578 }{}}
```

For inline sections paragraph and subparagraph, start a new paragraph now:

```
6579 \ifthenelse{%
6580     \cnttest{@nameuse{\LWR@depth#4}}{>=}{\LWR@depthparagraph}%
6581 }%
6582     {\LWR@startpars}%
6583     {}%
```

Create the opening tag with an autosec:

```
6584 \LWR@traceinfo{\LWR@section: about to \LWR@createautosec}%
6585 \LWR@createautosec{@nameuse{\LWR@tag#4}}%
6586 \setcounter{\LWR@currentautosec}{\value{page}}%
```

Check if starred:

```

6587 \IfBooleanTF{#1}%
6588 {%
6589     \LWR@traceinfo{\LWR@section: starred}%

```

Starred, but also forcing a TOC entry, so add unnumbered TOC name or regular name:

```

6590     \ifbool{\LWR@forcinghtmltoc}%
6591     {%
6592         \addcontentsline{toc}{#4}{%
6593             \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}%
6594         }%
6595     }%
6596     {}%
6597 }% starred

```

Not starred, so step counter and add to TOC:

```
6598 {}% not starred
```

Only add a numbered TOC entry if section number is not too deep:

```

6599     \ifthenelse{%
6600         \cnttest{\@nameuse{\LWR@depth#4}}{<=}{\value{secnumdepth}}}%
6601     {%
6602         {}% if secnumdepth

```

If in the main matter, step the counter and add the TOC entry. For article class, lwarp assumes that all is mainmatter.

```

6603     \LWR@traceinfo{\LWR@section: about to test main matter}%
6604     \ifbool{\LWR@mainmatter}%
6605     {%
6606         \LWR@traceinfo{\LWR@section: yes mainmatter}%
6607         \refstepcounter{#4}%

```

Add main matter numbered TOC entry with the TOC name or the regular name:

```

6608         \LWR@traceinfo{\LWR@section: about to addcontentsline}%
6609         \addcontentsline{toc}{#4}%
6610         {%
6611             \protect\numberline{%
6612                 \@nameuse{pre#4name}%
6613                 \@nameuse{the#4}%
6614                 \@nameuse{post#4name}%
6615             }%
6616             {}%
6617             \ignorespaces%
6618             \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}\protect\relax%
6619             {}%
6620         }%
6621         \LWR@traceinfo{\LWR@section: finished addcontentsline}%
6622     }% end of if main matter

```

If not main matter, add unnumbered TOC name or regular name:

```

6623      {%
6624          \LWR@traceinfo{LWR@section: no main matter}%
6625          \addcontentsline{toc}{#4}{%
6626              \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}%
6627          }%
6628      }% end of not main matter
6629  }% end of secnumdepth

```

Deeper than secnumdepth, so add an unnumbered TOC entry:

```

6630      {%
6631          \addcontentsline{toc}{#4}{%
6632              \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}%
6633          }%
6634      }%

```

For part, print “Part”:

```

6635  \ifbool{LWR@mainmatter}%
6636  {%
6637      \ifthenelse{%
6638          \cnttest{@nameuse{LWR@depth#4}}{<=}%
6639          {\value{secnumdepth}}) \AND%
6640          \cnttest{@nameuse{LWR@depth#4}}{=}{\LWR@depthpart}%
6641      }%
6642      {@partnameformat}%
6643  }%

```

Print the section number:

```

6644      \LWR@traceinfo{LWR@section: about to print section number}%
6645      \ifthenelse{%
6646          \cnttest{@nameuse{LWR@depth#4}}{<=}{\value{secnumdepth}}%
6647      }%
6648      {%
6649          \ifstrequal{#4}{part}%
6650          {\protect\LWR@sectionnumber{@partcntformat{#4}}}%
6651          {%
6652              \ifstrequal{#4}{chapter}%
6653                  {\protect\LWR@sectionnumber{@chapcntformat{#4}}}%
6654                  {\protect\LWR@sectionnumber{@seccntformat{#4}}}%
6655          }%
6656      }%
6657      {%
6658          \LWR@traceinfo{LWR@section: finished print section number}%
6659      }%
6660  }% end of not starred

```

Print the section name:

```

6661 \LWR@traceinfo{LWR@section: about to print the section name}%
6662 \LWR@isolate{#3}%

```

Close the heading tag, such as /H2:

```
6663 \LWR@traceinfo{LWR@section: about to close the heading tag}%
6664 \LWR@htmntag{@nameuse{LWR@tag#4end}}%
6665 \LWR@orignewline%
```

Generate a L^AT_EX label:

```
6666 \LWR@traceinfo{LWR@section: about to create the LaTeX label}%
6667 \setcounter{LWR@latestautopage}{\value{page}}%
6668 \LWR@newautopagelabel{LWR@currentautosec}\LWR@orignewline%
```

Start paragraph handing unless is an inline paragraph or subparagraph:

```
6669 \ifthenelse{%
6670   \cnttest{@nameuse{LWR@depth#4}}<{\LWR@depthparagraph}%
6671 }%
6672 { \LWR@startpars}%
6673 {}%
```

If not starred, remember the previous depth to possibly trigger a new HTML page.

HOWEVER, allow a \part* to start a new HTML page. This is used by appendix.

A starred section does not trigger a new HTML page at the beginning of this macro, so it should not affect it here at the end either. This became an issue when a \listoftables was tested in the middle of the document. The \chapter* for the list was not allowing a new HTML page for the section following it while CombineHigherDepths was true.

```
6674 \ifthenelse{%
6675   \NOT\equal{#1}{\BooleanTrue}\OR%
6676   \cnttest{@nameuse{LWR@depth#4}}= {\LWR@depthpart}%
6677 }%
6678 {%
6679   \setcounter{LWR@prevFileDepth}{@nameuse{LWR@depth#4}}%
6680 }%
6681 {}%
```

Reset to defaults if not a phantomsection:

```
6682 \ifstrempty{#3}%
6683 {}%
6684 {}%
6685   \global\boolfalse{LWR@forcinghtmlpage}%
6686   \global\boolfalse{LWR@forcinghtmltoc}%
6687 {}%
6688 %
6689 \LWR@traceinfo{LWR@section: done}%
6690 }
```

62.4 Pre- and post- sectioning names

\prebookname Usually null, but is used by `uj*` and `ut*` Japanese classes.

\postbookname

```
6691 \providecommand*\{\prebookname}{}  
6692 \providecommand*\{\postbookname}{}  
6693 \providecommand*\{\prepartname}{}  
6694 \providecommand*\{\postpartname}{}  
6695 \providecommand*\{\prechaptername}{}  
6696 \providecommand*\{\postchaptername}{}  
6697 \providecommand*\{\presectionname}{}  
6698 \let\postsectionname\presectionname  
6699  
6700 \let\presubsectionname\presectionname  
6701 \let\postsubsectionname\postsectionname  
6702  
6703 \let\presubsubsectionname\presectionname  
6704 \let\postsubsubsectionname\postsectionname  
6705  
6706 \let\preparagraphname\presectionname  
6707 \let\postparagraphname\postsectionname  
6708  
6709 \let\presubparagraphname\presectionname  
6710 \let\postsubparagraphname\postsectionname
```

\prepartname Usually null, but is used by `uj*` and `ut*` Japanese classes.

\postpartname

\prechaptername Usually null, but is used by `uj*` and `ut*` Japanese classes.

\postchaptername

```
6695 \providecommand*\{\prechaptername}{}  
6696 \providecommand*\{\postchaptername}{}  
6697 \providecommand*\{\presectionname}{}  
6698 \let\postsectionname\presectionname  
6699  
6700 \let\presubsectionname\presectionname  
6701 \let\postsubsectionname\postsectionname  
6702  
6703 \let\presubsubsectionname\presectionname  
6704 \let\postsubsubsectionname\postsectionname  
6705  
6706 \let\preparagraphname\presectionname  
6707 \let\postparagraphname\postsectionname  
6708  
6709 \let\presubparagraphname\presectionname  
6710 \let\postsubparagraphname\postsectionname
```

\presectionname Always null, but provided here for algorithmic simplicity in `\LWR@section`.

\postsectionname

```
6697 \providecommand*\{\presectionname}{}  
6698 \let\postsectionname\presectionname  
6699  
6700 \let\presubsectionname\presectionname  
6701 \let\postsubsectionname\postsectionname  
6702  
6703 \let\presubsubsectionname\presectionname  
6704 \let\postsubsubsectionname\postsectionname  
6705  
6706 \let\preparagraphname\presectionname  
6707 \let\postparagraphname\postsectionname  
6708  
6709 \let\presubparagraphname\presectionname  
6710 \let\postsubparagraphname\postsectionname
```

62.5 \section and friends

For `memoir`, a second optional argument is allowed.

For `hypbmsec`, a second optional argument or either parenthesis argument is allowed.

Each of these additional arguments are for headers or PDF bookmarks, and are ignored for `HTML` output.

```
\part * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}
```

```
6711 \newcommand{\part@preamble}{}% for koma-script  
6712  
6713 \DeclareDocumentCommand{\part}{s d() o o d() m}{%  
6714   \LWR@section{#1}{#3}{#6}{part}}%
```

```
6715
6716     \part@preamble% for koma-script
6717     \renewcommand{\part@preamble}{}%
6718 }

\chapter * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}

6719 \let\@printcites\relax% for quotchap package
6720
6721 \newcommand{\chapter@preamble}{}% for koma-script
6722
6723 \@ifundefined{chapter}
6724 {}
6725 {%
6726     \DeclareDocumentCommand{\chapter}{s d() o o d() m}{%
6727         \LWR@section{#1}{#3}{#6}{chapter}%
6728
6729         \@printcites% for quotchap package
6730
6731         \chapter@preamble% for koma-script
6732         \renewcommand{\chapter@preamble}{}%
6733     }
6734 }

\section * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}

6735 \DeclareDocumentCommand{\section}{s d() o o d() m}{%
6736     \LWR@section{#1}{#3}{#6}{section}%
6737 }

\subsection * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}

6738 \DeclareDocumentCommand{\subsection}{s d() o o d() m}{%
6739     \LWR@section{#1}{#3}{#6}{subsection}%
6740 }

\subsubsection * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}

6741 \DeclareDocumentCommand{\subsubsection}{s d() o o d() m}{%
6742     \LWR@section{#1}{#3}{#6}{subsubsection}%
6743 }

\paragraph * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}

6744 \DeclareDocumentCommand{\paragraph}{s d() o o d() m}{%
6745     \LWR@section{#1}{#3}{#6}{paragraph}%
6746 }

\ subparagraph * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}
```

```

6747 \DeclareDocumentCommand{\subparagraph}{s d() o o d() m}{%
6748     \LWR@section{#1}{#3}{#6}{subparagraph}%
6749 }

6750 \end{warpHTML}

```

63 Starting a new file

for HTML & PRINT: 6751 \begin{warpall}

\HTMLLanguage Default language for the HTML lang tag.

```

6752 \newcommand*{\LWR@currentHTMLLanguage}{en-US}
6753
6754 \newcommand*{\HTMLLanguage}[1]{%
6755 \renewcommand*{\LWR@currentHTMLLanguage}{#1}%
6756 }

```

\theHTMLTitleSeparator May be used inside \theHTMLTitleSection to separate the website's overall HTML title and the particular page's section name.

```

6757 \ifPDFTeX% pdflatex or dvi latex
6758     \ifdefstring{\inputencodingname}{utf8}{%
6759         \newcommand*{\theHTMLTitleSeparator}{ - }% EMdash
6760     }{%
6761         \newcommand*{\theHTMLTitleSeparator}{ - }% hyphen
6762     }%
6763 \else%
6764     \ifpTeX%
6765         \newcommand*{\theHTMLTitleSeparator}{ - }% hyphen
6766     \else%
6767         \newcommand*{\theHTMLTitleSeparator}{ - }% EMdash
6768     \fi%
6769 \fi%

```

\HTMLTitleBeforeSection Sets the HTML page's meta title tag to show the website title before the section name.

```

6770 \newcommand*{\HTMLTitleBeforeSection}{%
6771     \def\theHTMLTitleSection{%
6772         \theHTMLTitle\theHTMLTitleSeparator\theHTMLSection%
6773     }%
6774 }

```

\HTMLTitleAfterSection Sets the HTML page's meta title tag to show the section name before the website title.

```

6775 \newcommand*{\HTMLTitleAfterSection}{%
6776     \def\theHTMLTitleSection{%
6777         \theHTMLSection\theHTMLTitleSeparator\theHTMLTitle%
6778     }%
6779 }

```

\theHTMLTitleSection Forms the HTML page's meta title tag. The default is to show the website title before the section name.

6780 \HTMLTitleBeforeSection

\theHTMLSection The section name is passed to \LWR@filestart, which then sets \theHTMLSection for use inside \theHTMLTitleSection to create an HTML meta title tag.

6781 \newcommand*\{\theHTMLSection}{}%

6782 \end{warpall}

for HTML output: 6783 \begin{warpHTML}

\LWR@filestart [<sectionname>] Creates the opening HTML tags.

6784 \newcommand*\{\LWR@filestart}[1][]{}%
6785 \LWR@traceinfo{\LWR@filestart !#!!}%

Locally temporarily disable direct-formatting commands:

6786 \begingroup%
6787 \LWR@nullfonts%

Save the section name for use while creating the HTML meta title tag:

6788 \edef\theHTMLSection{\#1}%

Create the page's HTML header:

6789 \LWR@htmltag{!DOCTYPE html}\LWR@orignewline

The language is user-adjustable:

6790 \LWR@htmltag{
6791 html lang=\LWR@orig@textquotedbl\currentHTMLLanguage\LWR@orig@textquotedbl%
6792 }\LWR@orignewline

Start of the meta data:

6793 \LWR@htmltag{head}\LWR@orignewline

Charset is fixed at UTF-8:

6794 \LWR@htmltag{
6795 meta charset=\LWR@orig@textquotedbl{}UTF-8\LWR@orig@textquotedbl\ /%
6796 }\LWR@orignewline

Author:

6797 \ifthenelse{\equal{\theHTMLAuthor}{}}{

```

6798     {}%
6799     {%
6800         \LWR@htmltag{%
6801             meta name=\LWR@orig@textquotedbl{}author\LWR@orig@textquotedbl\ % space
6802             content=\LWR@orig@textquotedbl\theHTMLAuthor\LWR@orig@textquotedbl\ /%
6803             }\LWR@orignewline%
6804     }%

```

l warp is the generator:

```

6805 \LWR@htmltag{%
6806     meta % space
6807     name=\LWR@orig@textquotedbl{}generator\LWR@orig@textquotedbl\ % space
6808     content=\LWR@orig@textquotedbl{}LaTeX L warp package\LWR@orig@textquotedbl\ /%
6809 }\LWR@orignewline%

```

If there is a description, add it now:

```

6810 \ifdefempty{\LWR@currentHTMLDescription}{}{%
6811     \LWR@htmltag{%
6812         meta name=\LWR@orig@textquotedbl{}description\LWR@orig@textquotedbl\ % space
6813         content=\LWR@orig@textquotedbl\LWR@currentHTMLDescription\LWR@orig@textquotedbl\ /%
6814     }\LWR@orignewline%
6815 }%

```

Mobile-friendly viewport:

```

6816 \LWR@htmltag{%
6817     meta % space
6818     name=\LWR@orig@textquotedbl{}viewport\LWR@orig@textquotedbl\ % space
6819     content=\LWR@orig@textquotedbl{}width=device-width, initial-scale=1.0\LWR@orig@textquotedbl\ /%
6820 }\LWR@orignewline

```

IE patch:

```

6821 \LWR@htmltag{!-/-[if lt IE 9]}\LWR@orignewline
6822 \LWR@htmltag{%
6823     script % space
6824     src=\LWR@orig@textquotedbl{}%
6825         http://html5shiv.googlecode.com/svn/trunk/html5.js%
6826     \LWR@orig@textquotedbl%
6827 }%
6828 \LWR@htmltag{/script}\LWR@orignewline
6829 \LWR@htmltag{![endif]-/-}\LWR@orignewline

```

The page's title, if there is one. A section name is also added if given.

```

6830 \ifthenelse{\equal{\theHTMLTitle}{}{}}{%
6831     {}%
6832     {%
6833         \LWR@htmltag{title}%
6834         \ifdefempty{\theHTMLSection}{%
6835             {\theHTMLTitle}%
6836             {\theHTMLTitleSection}%

```

```
6837      \LWR@htmltag{/title}\LWR@orignewline%
6838  }%
```

The page's stylesheet:

```
6839 \LWR@htmltag{%
6840   link % space
6841   rel=\LWR@orig@textquotedbl{}stylesheet\LWR@orig@textquotedbl\ % space
6842   type=\LWR@orig@textquotedbl{}text/css\LWR@orig@textquotedbl\ % space
6843   href=\LWR@orig@textquotedbl\LWR@currentcss\LWR@orig@textquotedbl\ /%
6844 }%
6845 \LWR@orignewline
```

Optional MATHJAX support. The `HTML` tags must be turned off during the verbatim input, and the paragraph handling which was turned on at the end of verbatim input must be immediately turned off again.

```
6846 \ifbool{mathjax}{%
6847 {%
6848   \begingroup%
6849   \LWR@restoreoriglists%
6850   \boolfalse{\LWR@verbtags}%
6851     \verbatiminput{\LWR@mathjaxfilename}%
6852   \booltrue{\LWR@verbtags}%
6853   \endgroup%
6854   \LWR@stoppars%
6855 }% end of mathjax
6856 {}%
```

End of the header:

```
6857 \LWR@htmltag{/head}\LWR@orignewline
```

Start of the body:

```
6858 \LWR@htmltag{body}\LWR@orignewline
6859 \endgroup
6860 \LWR@traceinfo{\LWR@filestart: done}
6861 }

6862 \end{warpHTML}
```

64 Starting HTML output

for HTML output: 6863 `\begin{warpHTML}`

`\LWR@LwarpStart` Executed at the beginning of the entire document.

The use of \textquotedbl instead of " improves compatibility with xeCJK.

```
6864 \catcode`\$=\active
6865 \newcommand*{\LWR@LwarpStart}{%
6866 {%
6867 \LWR@traceinfo{\LWR@l warpStart}}
```

If formatting for a word processor, force filedepth to single-file only, force HTML debug comments off.

```
6868 \ifbool{FormatWP}{%
6869     \setcounter{FileDepth}{-5}%
6870     \boolexpr{HTMLDebugComments}{}%
6871 }{}
```

Expand and detokenize \HomeHTMLFilename and \HTMLFilename:

```
6872 \edef\LWR@strresult{\HomeHTMLFilename}
6873 \edef\HomeHTMLFilename{\detokenize\expandafter{\LWR@strresult}}
6874 \edef\LWR@strresult{\HTMLFilename}
6875 \edef\HTMLFilename{\detokenize\expandafter{\LWR@strresult}}
```

Force onecolumn and empty page style:

```
6876 \LWR@origonecolumn%
6877 \LWR@origpagestyle{empty}%
```

No black box for overfull lines:

```
6878 \overfullrule=0pt
```

Reduce chance of line overflow when HTML tags are added:

```
6879 \LWR@print@footnotesize%
```

In PDF output, don't allow line breaks to interfere with HTML tags:

```
6880 \LWR@print@raggedright%
6881 \LetLtxMacro{\}{\LWR@endofline}}%
```

Spread the lines for *pdftotext* to read them well:

```
6882 \linespread{1.3}%
```

For *pdftotext* to reliably identify paragraph splits:

```
6883 \setlength{\parindent}{0pt}
6884 \setlength{\parskip}{2ex}
```

For the *lateximage* record file:

```
6885 \immediate\openout\LWR@lateximagesfile=\BaseJobname-images.txt
```

Removes space around the caption in the HTML:

```
6886 \setlength{\belowcaptionskip}{0ex}
6887 \setlength{\abovecaptionskip}{0ex}
```

Redefine the plain page style to be empty when used by index pages:

```
6888 \renewcommand{\ps@plain}{}  
6889 \let\LWR@origcaption\caption
```

Plug in some new actions. This is done just before the document start so that they won't be over-written by some other package.

Float captions:

```
6890 \let\ltx@label\caption
```

Labels: `\ltx@label` is used in `amsmath` environments and is also patched by `cleveref`.

Label in HTML

```
6890 \let\ltx@origltx@label\ltx@label
6891 \let\ltx@label\lwr@htmlmathlabel
```

Not yet started any paragraph handling:

```
6892 \global\boolearn{LWR@doingapar}
6893 \global\boolearn{LWR@doingstartpars}
```

Document and page settings:

```
6894 \mainmatter
6895 \lwr@origpagenumbering{arabic}
```

Start a new HTML file and a header:

```
6896 \lwr@traceinfo{LWR@lwarpStart: Starting new file.}
6897 \lwr@filestart
6898 \lwr@traceinfo{LWR@lwarpStart: Generating first header.}
```

```
6899 \ifdefempty{\lwr@firstpagetop}{}{%
6900   \lwr@htmlelement{header}\lwr@orignewline
6901   \lwr@startpars
6902   \lwr@firstpagetop
6903   \lwr@stoppars
6904   \lwr@htmlelement{/header}\lwr@orignewline
6905 }%
```

```
6906 \lwr@htmlelementclass{div}{bodywithoutsidetoc}
6907 \lwr@htmlelementclass{div}{bodycontainer}
6908 \lwr@traceinfo{LWR@lwarpStart: Generating textbody.}
6909 \lwr@htmlelementclass{section}{textbody}
```

Patch the `itemize`, `enumerate`, and `description` environments and `\item`. This works with the native L^AT_EX environments, as well as those provided by `enumitem`, `enumerate`, and `paralist`.

```
6910 \LWR@patchlists
```

Ensure that math mode is active to call `lwarp`'s patches:

```
6911 \catcode`\$=\active
```

Required for `\nameref` to work with SVG math:

```
6912 \immediate\write\@mainaux{\catcode`\string$\active}%
6913 \LetLtxMacro{\LWR@syntaxhighlightone$}{\balance} for editor syntax highlighting
```

Allow HTML paragraphs to begin:

```
6914 \LWR@startpars
```

If using MATHJAX, disable `\ensuremath` by printing a nullified definition at the start of each file, and add further customizations:

```
6915 \LWR@customizeMathJax
```

First autopage label in case a figure occurs early.

```
6916 \setcounter{\LWR@latestautopage}{\value{page}}%
6917 \LWR@newautopagelabel{\LWR@currentautosec}%
```

```
6918 \LWR@traceinfo{\LWR@lwarpStart: done}
6919 }
6920 \catcode`\$=3% math shift until lwarp starts

6921 \end{warpHTML}
```

65 Ending HTML output

for HTML output: 6922 `\begin{warpHTML}`

`\LWR@requesttoc {<boolean>} {<suffix>}` Requests that a TOC, LOF, or LOTbe generated.

```
6923 \newcommand*{\LWR@requesttoc}[2]{%
6924 \ifbool{#1}{%
6925 {
6926     \expandafter\newwrite\@nameuse{tf@#2}%
6927     \immediate\openout \nameuse{tf@#2} \jobname.\#2\relax
6928 }{}%
6929 }
```

\LWR@LwarpEnd Final stop of all HTML output:

```
6930 \newcommand*\LWR@LwarpEnd{%
6931 %
6932 \LWR@stopars%
6933 \LWR@closeprevious{finished}}
```

At the bottom of the ending file:

Close the textbody:

```
6934 \LWR@htmlelementclassend{section}{textbody}%
6935 \LWR@htmlelementclassend{div}{bodycontainer}%
6936 \LWR@htmlelementclassend{div}{bodyandsidetoc}
```

Print any pending footnotes:

```
6937 \LWR@printpendingfootnotes
```

Create the footer:

```
6938 \ifdefempty{\LWR@pagebottom}{%
6939   \LWR@htmlelement{footer}%
6940   \LWR@pagebottom%
6941   \LWR@htmlelementend{footer}%
6942 }%
6943 }
```

No bottom navigation if are finishing the home page, or if formatting for an EPUB or word processor.

Presumably has a table-of-contents.

```
6945 \ifthenelse{\boolean{FormatEPUB} \OR \boolean{FormatWP}}{%
6946   {}%
6947   {%
6948     \ifnumcomp{\value{\LWR@htmlfilename}}{>}{0}{\LWR@botnavigation}{}%
6949   }%
6950 \LWR@stopars% final stop of all paragraphs
```

Finish the HTML file:

```
6951 \LWR@htmlltag{/body}\LWR@orignewline
6952 \LWR@htmlltag{/html}\LWR@orignewline
```

Seems to be required sometimes:

```
6953 \LWR@orignewline
6954 }
```

\enddocument If labels have not changed, mark successful completion of the `lateximages` file. Executed as everything is being shut down.

```

6955 \xpatchcmd{\enddocument}
6956   {%
6957     \if@tempswa
6958       \@latex@warning@no@line{Label(s) may have changed.
6959       Rerun to get cross-references right}%
6960     \fi
6961   }
6962   {%
6963     \if@tempswa
6964       \@latex@warning@no@line{Label(s) may have changed.
6965       Rerun to get cross-references right}%
6966     \else
6967       \immediate\write\LWR@lateximagesfile{%
6968         |end|end|end|%
6969       }%
6970     \fi
6971   }
6972   {}%
6973   {
6974     \PackageWarningNoLine{lwarp}%
6975   {%
6976     Could not patch \protect\enddocument.\MessageBreak
6977     If labels have changed, be sure to recompile before\MessageBreak
6978     creating lateximages with\MessageBreak
6979     \space\space lwarpmk limages,\MessageBreak
6980     or the images may be corrupt%
6981   }%
6982 }
6983 \end{warpHTML}
```

66 Title page

package support `lwarp` supports the native L^AT_EX titling commands, and also supports the packages `authblk` and `titling`. If both are used, `authblk` should be loaded before `titling`.



\published and \subtitle If using the `titling` package, additional titlepage fields for `\published` and `\subtitle` may be added by using `\AddSubtitlePublished` in the preamble. See section 66.8.

affiliation

`lwarp` provides for the `\author` macro an additional `\affiliation` macro to provide an affiliation and other additional information for each author in the title page. The affiliation information is removed when using `titlingpage`'s `\theauthor` in the main text.

reusing titlepage information

The `titling` package maintains the definitions of `\thetitle`, `\theauthor`, etc., after the title has been typeset. These commands are to be used to refer to the document's title and author, etc., in the main text. These definitions have the `\thanks` and `\affiliation` removed, and for `\author` the `\and` is replaced to generate a simple inline list of authors separated by commas. Note: `\theauthor` does not work well with



`\theauthor, authblk`

`authblk` unless the traditional L^AT_EX syntax is used.

custom titlepages `\printtitle`, `\printauthor`, etc., are provided for use inside a `custom titlepage` or `titlingpage` environment, and these retain the `\thanks` and `\affiliation`.

`\printthanks` `\printthanks` has been added to force the printing of thanks inside a `titlingpage` environment when `\maketitle` is not used.

 `\thanks` Inside a `\titlepage` or `\titlingpage` environment, use `\thanks` instead of `\footnote` for acknowledgements, etc.

66.1 Setting the title, etc.

The following provide setting commands for both HTML and print outputs.

`\author` `\and` `{<author>}` While using `\maketitle` and print mode, the author is treated as a single-column tabular and the `\and` feature finishes the current tabular then starts a new one for the next author. Each author thus is placed into its own tabular, and an affiliation may be placed on its own line such as

```
\author{Name \\ Affiliation \and Second Name \\ Second Affiliation}
```

For HTML, the entire author block is placed inside a `<div>` of class `author`, and each individual author is inside a `<div>` of class `oneauthor`.

`\@title` `\@author` `\@date` `\@title`, `\@author`, and `\@date` store the values as originally assigned, including any `\thanks`, `\and`, or `\affiliation`. These are low-level macros intended to be used by other macros only inside a `titlepage` or `titlingpage`, and are used by `\maketitle`. The author is printed inside a single-column tabular, which becomes multiple single-column tabulars if multiples authors are included. For HTML, these tabulars become side-by-side `<div>`s of class `oneauthor`, all of which are combined into one `<div>` of class `author`.

`\printtitle` `\printauthor` `\printdate` `\printtitle`, `\printauthor`, etc. are user-level macros intended to be used in `custom titlepage` or `titlingpage` environments in cases where `\maketitle` is not desired. These commands preserve the `\thanks`, etc., and should not be used in the main text.

`\thetitle` `\theauthor` `\thedate` `\HTMLPageBottom` `\thetitle`, `\theauthor`, and `\thedate` are available if `titling` has been loaded, and are sanitized user-level versions from which have been removed the `\thanks` and `\affiliation`, and `\and` is changed for inline text usage. The author is printed inline without `\affiliation` or `\thanks`, with `\and` placing commas between multiple authors. Thus, these commands are to be used in the main text whenever the user wishes to refer to the document's title and such. One practical use for this is to place the authors at the bottom of each HTML page, such as:

```
\HTMLPageBottom{
\begin{center}\textcopyright~20xx \theauthor\end{center}
}
```

 `\theauthor`, `authblk` `\theauthor` does not work well if `authblk` is used. If `\theauthor` is important, it is recommended to use the standard L^AT_EX syntax for `\author`, optionally with `lwarp`'s `\affiliation` macro as well.

⚠️ affiliations After `\maketitle` has completed, `\theauthor` retains the definition of the author, but `\and` is changed to become a comma and a space, intending to print the authors names separated by spaces. This fails when affiliations are included on their own table rows.

`\affiliation` A solution, provide here, is to define a macro `\affiliation` which, during `\maketitle`, starts a new row and adds the affiliation, but after `\maketitle` is finished `\affiliation` is re-defined to discard its argument, thus printing only the author names when `\author` is later used inline.

66.2 \if@titlepage

for HTML & PRINT: 6984 `\begin{warpall}`

`\if@titlepage` Some classes do not provide `\if@titlepage`. In this case, provide it and force it false.

```
6985 \ifcsvoid{@titlepagefalse}{
6986   \newif\if@titlepage
6987   \titlepagefalse
6988 }{}  
6989 \end{warpall}
```

66.3 Changes for \affiliation

`\affiliation {⟨text⟩}`

Adds the affiliation to the author for use in `\maketitle`.

Inside `titlepage`, this macro prints its argument. Outside, it is null.

for HTML & PRINT: 6990 `\begin{warpall}`
 6991 `\providerobustcmd{\affiliation}[1]{}`
 6992 `\end{warpall}`

for PRINT output: 6993 `\begin{warpprint}`

```
6994 \AtBeginEnvironment{titlepage}{
6995 \renewrobustcmd{\affiliation}[1]{\textsc{\small#1}}
6996 }
6997
6998 \AtBeginDocument{
6999 \@ifpackageloaded{titling}{%
7000 \AtBeginEnvironment{titlingpage}%
7001 \renewrobustcmd{\affiliation}[1]{\textsc{\small#1}}
7002 }
7003 }% titling loaded
7004 % AtBeginDocument  
  
7005 \end{warpprint}
```

for HTML output: 7006 \begin{warpHTML}

Env titlepage Sets up a <div> of class titlepage. Provided even for memoir class, since it is used by \maketitle.

```
7007 \DeclareDocumentEnvironment{titlepage}{}  
7008 {  
7009 \renewrobustcmd{\affiliation}[1]{\\ \InlineClass{affiliation}{##1}}  
7010 \LWR@printpendingfootnotes  
7011 \LWR@forcenewpage  
7012 \BlockClass{titlepage}  
7013 }  
7014 {  
7015 \endBlockClass  
7016 \LWR@printpendingfootnotes  
7017 }  
  
7018 \end{warpHTML}
```

66.4 Printing the thanks

for HTML & PRINT: 7019 \begin{warpall}

\printthanks Forces the \thanks to be printed.

This is necessary in a titlingpage environment when \maketitle was not used.

```
7020 \newcommand*{\printthanks}{\LWR@stoppars@\thanks\LWR@startpars}  
  
7021 \end{warpall}
```

66.5 Printing the title, etc. in HTML

The following are for printing the title, etc. in a titlepage or a titlingpage in HTML:

for HTML output: 7022 \begin{warpHTML}

\printtitle

```
7023 \newcommand*{\printtitle}{%  
7024 \LWR@stoppars%  
7025 \LWR@htmllag{\LWR@tagtitle}%"  
7026 \@title%  
7027 \LWR@htmllag{\LWR@tagtitleend}%"  
7028 \LWR@startpars%  
7029 }  
7030 }
```

\LWR@printthetitle A private version which prints the title without footnotes, used to title each HTML page.

```
7031 \newcommand*{\LWR@printthetitle}{%
7032 {%
7033     \LWR@stoppars%
7034     \LWR@htmlltag{\LWR@tagtitle}%
7035     \thetitle%
7036     \LWR@htmlltag{\LWR@tagtitleend}%
7037     \LWR@startpars%
7038 }
```

\printauthor HTML version.

```
7039 \newcommand*{\printauthor}{%
```

The entire author block is contained in a <div> named author:

```
7040 \begin{BlockClass}{author}
```

\and finishes one author and starts the next:

```
7041 \renewcommand{\and}{%
7042 \end{BlockClass}%
7043 \begin{BlockClass}{oneauthor}%
7044 }
```

Individual authors are contained in a <div> named oneauthor:

```
7045 \begin{BlockClass}{oneauthor}%
7046 @author%
7047 \end{BlockClass}%
7048 \end{BlockClass}%
7049 }
```

\printdate

```
7050 \newcommand*{\printdate}{%
7051 \begin{BlockClass}{titledate}%
7052 @date%
7053 \end{BlockClass}%
7054 }
```

```
7055 \end{warpHTML}
```

66.6 Printing the title, etc. in print form

The following are for printing the title, etc. in a titlepage or a titlingpage in print form:

for PRINT output: 7056 \begin{warpprint}

```
\printtitle
7057 \newcommand*{\printtitle}{{\Huge\@title}}
```

\printauthor Print mode.

```
7058 \newcommand*{\printauthor}{%
7059   {\large\begin{tabular}[t]{c}\@author\end{tabular}}}
```

\printdate

```
7060 \newcommand*{\printdate}{{\small\textit{@date}}}
7061 \end{warpprint}
```

66.7 \maketitle for HTML output

An HTML <div> of class titlepage is used.

\thanks are a form of footnotes used in the title page. See section 59 for other kinds of footnotes.

See \thanksmarkseries{series}, below, to set the style of the footnote marks.

for HTML output: 7062 \begin{warpHTML}

```
7063 \@ifclassloaded{memoir}
7064 {
7065 \newcommand{\LWR@setfootnoteseries}{%
7066   \renewcommand\thefootnote{\@arabic\c@footnote}%
7067 }
7068 }% not memoir
7069 \if@titlepage
7070 \newcommand{\LWR@setfootnoteseries}{%
7071   \renewcommand\thefootnote{\@arabic\c@footnote}%
7072 }
7073 \else
7074 \newcommand{\LWR@setfootnoteseries}{%
7075   \renewcommand\thefootnote{\@fnsymbol\c@footnote}%
7076 }
7077 \fi
7078 }% not memoir
```

\LWR@maketitlesetup Patches \thanks macros.

```
7079 \newcommand*{\LWR@maketitlesetup}{%
```

Redefine the footnote mark:

```
7080 \LWR@setfootnoteseries%
7081 \def\@makefnmark{\textsuperscript{\thefootnote}}
```

```
\thefootnote \nameuse{arabic}{footnote}, or
\thefootnote \nameuse{fnsymbol}{footnote}
```

Redefine the footnote text:

```
7082 \long\def\@makefntext##1{%
```

Make the footnote mark and some extra horizontal space for the tags:

```
7083 \textsuperscript{\@thefnmark}~%
```

```
\makethanksmark \thanksfootmark \tmark \atmark \itshape a (or similar)
```

Print the text:

```
7084 ##1%
7085 }%
7086 }
```

```
\@fnsymbol {\langle counter\rangle}
```

Re-defined to use an **HTML** entity for the double vertical bar symbol. The original definition used `\|` which was not being seen by *pdftotext*.

```
7087 \def\@fnsymbol{\ifcase#1\or *\or \HTMLentity{dagger}\or \HTMLentity{Dagger}\or
7088   \HTMLentity{sect}\or \HTMLentity{para}\or \text{\HTMLunicode{2016}}\or
7089   **\or \HTMLentity{dagger}\HTMLentity{dagger}\or
7090   \HTMLentity{Dagger}\HTMLentity{Dagger}\else\ctrerr\fi}
```

`\maketitle` **HTML** mode. Creates an **HTML** titlepage `<div>` and typesets the title, etc.

Code from the *titling* package is adapted, simplified, and modified for **HTML** output.

```
7091 \renewcommand{\maketitle}{%
```

An **HTML** titlepage `<div>` is used for all classes.

```
7092 \begin{titlepage}
```

Set up special patches:

```
7093 \LWR@maketitlesetup
```

Typeset the title, etc:

```
7094 \@maketitle
```

Immediately generate any `\thanks` footnotes:

```
7095 \LWR@stopars\@thanks\LWR@startpars
```

Close the HTML titlepage div and cleanup:

```

7096 \end{titlepage}
7097 \setcounter{footnote}{0}%
7098 \global\let\thanks\relax
7099 \global\let\maketitle\relax
7100 \global\let\@maketitle\relax
7101 \global\let\@thanks\empty
7102 \global\let\@author\empty
7103 \global\let\@date\empty
7104 \global\let\@title\empty
7105 \global\let\title\relax
7106 \global\let\author\relax
7107 \global\let\date\relax
7108 \global\let\and\relax
7109 }
```

\@maketitle HTML mode. Typesets the title, etc.:

```

7110 \DeclareDocumentCommand{\@maketitle}{}{%
7111     \LWR@stopars%
7112     \LWR@htmlltag{\LWR@tagtitle}%
7113     \@title%
7114     \LWR@htmlltag{\LWR@tagtitleend}%
7115     \LWR@startpars%
7116     \begin{BlockClass}{author}%
```

For IEEETran class:

```

7117     \renewcommand*\{\cr\}{\%}
7118     \renewcommand*\{\crr\}{\%}
7119     \renewcommand*\{\noalign\}{\%}

7120     \renewcommand{\and}{%
7121         \end{BlockClass}%
7122         \begin{BlockClass}{oneauthor}%
7123     }%
7124         \begin{BlockClass}{oneauthor}%
7125             \@author%
7126             \end{BlockClass}%
7127         \end{BlockClass}%
7128         \begin{BlockClass}{titledate}%
7129             \@date%
7130         \end{BlockClass}%
7131 }
```

\LWR@titlingmaketitle \maketitle for use inside an HTML titlingpage environment.

```
7132 \newcommand*\{\LWR@titlingmaketitle\}{%
```

Keep pending footnotes out of the title block:

```
7133 \LWR@stopars\@thanks\LWR@startpars
```

Set up special patches:

```
7134 \LWR@maketitlesetup
```

Typeset the title, etc:

```
7135 \@maketitle
```

Immediately generate any \thanks footnotes:

```
7136 \LWR@stopars@\thanks\LWR@startpars
7137 }
```

```
7138 \end{warpHTML}
```

66.8 \published and \subtitle

\subtitle and \published To add \subtitle and \published to the titlepage, load the `titling` package and use `\AddSubtitlePublished` in the preamble.

The default `lwarp.css` has definitions for the `published` and `subtitle` classes.

If `titling` is loaded, `\AddSubtitlePublished` creates a number of additional macros, and also assigns some of the `titling` hooks. If `titling` is not loaded, `\AddSubtitlePublished` creates null macros.

⚠ titling hooks Do not use `\AddSubtitlePublished` if the user has patched the `titling` hooks for some other reason. Portions are marked `\warpprintonly` to reduce extra tags in `HTML`. Similarly, `BlockClass` has no effect in print mode. Thus, the following may be marked `warpall`.

for HTML & PRINT: 7139 \begin{warpall}

`\AddSubtitlePublished` Adds `\published` and `\subtitle`, and related.

```
7140 \newcommand*\AddSubtitlePublished{%
7141 \@ifpackageloaded{titling}{% yes titling package
7142   \newcommand{\@published}{}%
7143   \newcommand{\published}[1]{\gdef\@published{\#1}}%
7144   \renewcommand*\maketitlehooka{\printpublished}%
7145   \newcommand*\printpublished{%
7146     \warpprintonly{\begin{center}\unskip}%
7147     \begin{BlockClass}{published}%
7148       \warpprintonly{\Large\itshape}%
7149       \@published%
7150     \end{BlockClass}%
7151     \warpprintonly{\end{center}}%
7152   }%
7153   \newcommand{\@subtitle}{}%
7154   \newcommand{\subtitle}[1]{\gdef\@subtitle{\#1}}%
7155   \renewcommand*\maketitlehookb{\printsubtitle}%
7156   \newcommand*\printsubtitle{%
```

```

7157      \warpprintonly{\begin{center}\unskip}%
7158      \begin{BlockClass}{subtitle}%
7159      \warpprintonly{\Large\itshape}%
7160      \@subtitle%
7161      \end{BlockClass}%
7162      \warpprintonly{\end{center}}%
7163      }%
7164 }% yes titling package
7165 {%- no titling package
7166   \newcommand{\published}[1]{}
7167   \newcommand*{\printpublished}{}%
7168   \newcommand{\subtitle}{}%
7169   \newcommand*{\prints_subtitle}{}%
7170 }% no titling package
7171 }% \AddSubtitlePublished

7172 \end{warpall}

```

67 Abstract

The following code replaces the L^AT_EX default, and will itself be replaced later if the `abstract` package is loaded.

for HTML output: 7173 `\begin{warpHTML}`

`\abstractname` User-redefinable title for the abstract.

Also over-written by the `babel` package.

```
7174 \providecommand*{\abstractname}{Abstract}
```

Some classes allow an optional name, so it is allowed here.

Env `abstract`

```

7175 \DeclareDocumentEnvironment{abstract}{O{\abstractname}}
7176 {
7177 \LWR@forcenewpage
7178 \BlockClass{abstract}
7179 \BlockClassSingle{abstracttitle}{#1}
7180 }
7181 {
7182 \endBlockClass
7183 }

7184 \end{warpHTML}

```

68 Quote and verse

68.1 Attributions

```
\attribution {\langle name\rangle}
```

For use with quote, quotation, verse:

Ex: "A quotation." \attribution{\textsc{Author Name}\\\textsl{Book Title}}

for HTML output: 7185 \begin{warpHTML}
 7186 \newcommand{\attribution}[1]{%
 7187 \LWR@stoppars%
 7188 \begin{BlockClass}{attribution}
 7189 #1
 7190 \end{BlockClass}
 7191 \LWR@startpars%
 7192 }
 7193 \end{warpHTML}

for PRINT output: 7194 \begin{warpprint}
 7195 \newcommand{\attribution}[1]{
 7196 \begin{flushright}
 7197 \unskip
 7198 #1
 7199 \end{flushright}%
 7200 }
 7201 \end{warpprint}

68.2 Quotes, quotations

for HTML output: 7202 \begin{warpHTML}

Env quote
 7203 \renewenvironment*{quote}
 7204 {
 7205 \LWR@forcenewpage
 7206 \LWR@htmlblocktag{blockquote}
 7207 }
 7208 {\LWR@htmlblocktag{/blockquote}}

Env quotation

```
7209 \renewenvironment*{quotation}
7210 {
7211   \LWR@forcenewpage
7212   \LWR@htmlblocktag{blockquote}
7213 }
7214 {\LWR@htmlblocktag{/blockquote}}
```

7215 \end{warpHTML}

68.3 Verse

When using `verse` or `memoir`, always place a `\\"` after each line.

- `\attrib` The documentation for the `verse` and `memoir` packages suggest defining an `\attrib` command, which may already exist in current documents, but it will only work for print output. `lwarp` provides `\attribution`, which works for both print and `HTML` output. To combine the two so that `\attrib` is used for print and `\attribution` is used for `HTML`:

```
\begin{warpHTML}
\let\attrib\attribution
\end{warpHTML}
```

- `Len \vleftskip` These lengths are used by `verse` and `memoir` to control the left margin, and they may already be set by the user for print output. New lengths `\HTMLvleftskip` and `\HTMLleftmargini` are provided to control the margins in `HTML` output. These new lengths may be set by the user before any `verse` environment, and persist until they are manually changed again. One reason to change `\HTMLleftmargini` is if there is a wide `\flagverse` in use, such as the word “Chorus”, in which case the value of `\HTMLleftmargini` should be set to a wide enough length to contain “Chorus”. The default is wide enough for a stanza number.

- ⚠ `spacing` Horizontal spacing relies on `pdftotext`'s ability to discern the layout (`-layout` option) of the text in the `HTML`-tagged PDF output. For some settings of `\HTMLleftmargini` or `\HTMLleftskip` the horizontal alignment may not work out exactly, in which case a label may be shifted by one space.

68.3.1 L^AT_EX core `verse` environment

for HTML output: 7216 `\begin{warpHTML}`

Env `verse`

```
7217 \renewenvironment{verse}
7218     {\let\\newline% lwarp
7219      \list{}{\itemsep      \z@
7220              \itemindent   -1.5em%
7221              \listparindent\itemindent
7222              \rightmargin \leftmargin
7223              \advance\leftmargin 1.5em}%
7224      \item\relax}
7225  {\endlist}
```

7226 `\end{warpHTML}`

for HTML & PRINT: 7227 `\begin{warpall}`

68.3.2 verse and memoir

The following lengths are used by `verse` and `memoir`. They may be set in either print or HTML output, but are only used in HTML. This allows the user to set `\vleftskip` and `\leftmargini` for print output, and optionally select different values for HTML.

Len `\HTMLvleftskip` Sets `\vleftskip` inside a `verse` environment in HTML.

```
7228 \newlength{\HTMLvleftskip}
7229 \setlength{\HTMLvleftskip}{1em}
```

Len `\HTMLleftmargini` Sets `\leftmargini` inside a `verse` environment in HTML.

```
7230 \newlength{\HTMLleftmargini}
7231 \setlength{\HTMLleftmargini}{4.5em}

7232 \end{warpall}
```

69 Verbatim and tabbing

for HTML & PRINT: 7233 `\begin{warpall}`

Len `\VerbatimHTMLWidth` Width to use in HTML `Verbatim` environment.

This width is used when placing line numbers to the right. Ignored during print output.

```
7234 \newlength{\VerbatimHTMLWidth}
7235 \setlength{\VerbatimHTMLWidth}{4in}
7236 \end{warpall}
```

for HTML output: 7237 `\begin{warpHTML}`

Bool `LWR@verbtags` Used to temporarily turn off verbatim tags while doing `\verbatiminput` in the HTML head.

```
7238 \newbool{LWR@verbtags}
7239 \booltrue{LWR@verbtags}
```

`\LWR@atbeginverbatim` [`<1: style>`] [`<2: negative \baselineskip \vspace>`] [`<3: class>`]

Encloses a verbatim environment with the given css class.

The use of `\textquotedbl` instead of " improves compatibility with xeCJK.

```
7240 \newcommand*{\LWR@atbeginverbatim}[3] []
7241 {%
```

Avoid excessive space between lines:

```
7242 \setlength{\parskip}{0ex}%
```

Stop generating HTML paragraph tags:

```
7243 \LWR@stopars%
```

Create a new pre of the given class. The tags may temporarily be turned off for internal use, such as loading the MATHJAX script.

```
7244 \ifbool{\LWR@verbtags}{%
7245   \LWR@htmltag{pre class=\textquotedbl#3\textquotedbl%
7246     \ifthenelse{\equal{\#1}{} }{ style=\textquotedbl#1\textquotedbl}%
7247   }%
7248   \LWR@newline% pre
7249   \leavevmode\unskip\LWR@print@vspace*{-\#2\baselineskip}%
7250 }{}}
```

Use a mono-spaced font to preserve horizontal positioning. If horizontal alignment is important for the user, use a mono-spaced font in the css for the verse class.

```
7251 \begingroup%
```

```
7252 % \LWR@print@normalsize%
7253 \LWR@origttfamily%
7254 \LWR@print@small%
```

Since inside a <pre>, restore the original list processing:

```
7255 \LWR@restoreoriglists%
```

Turn off babel-french extra space before punctuation:

```
7256 \LWR@FBcancel%
```

Do not produce HTML tags for \hspace inside a verse par. Restore plain L^AT_EX \hspace functionality:

```
7257 \LWR@select@print@hspace%
7258 }
```

```
\LWR@afterendverbatim {\langle negative \baselineskip \vspace\rangle}
```

Finishes enclosing a verbatim environment.

```
7259 \newcommand*{\LWR@afterendverbatim}[1]{%
7260 \endgroup%
7261 \par%
```

At the end of the environment, close the pre:

```
7262 \ifbool{\LWR@verbtags}{%
7263   \LWR@print@vspace*{-\#1\baselineskip}%
7264   \noindent\LWR@htmltag{/pre}\LWR@newline% pre
7265 }{}}
```

Resume regular paragraph handling:

```
7266 \LWR@startpars%
7267 }
```

```
\verbatiminput {\<filename>}
```

Patch `\verbatiminput` to add HTML tags:

```
7268 \let\LWRV@origverbatim@input\verbatim@input
7269
7270 \renewcommand{\verbatim@input}[2]{%
7271 \ifbool{\LWR@verbtags}{\LWR@forcenewpage}{}}%
7272 \LWR@atbeginverbatim{2.5}{Verbatim}%
7273 \LWRV@origverbatim@input{\#1}{\#2}%
7274 \LWR@afterendverbatim{1.5}%
7275 }
```

Env `verbatim`

```
7276 \AfterEndPreamble{
7277 \LWR@traceinfo{Patching verbatim.}
7278 \AtBeginEnvironment{verbatim}{%
7279 \LWR@forcenewpage%
7280 \LWR@atbeginverbatim{2.5}{verbatim}%
7281 }%
7282 \AfterEndEnvironment{verbatim}{%
7283 \LWR@afterendverbatim{1}%
7284 }%
7285 }
```

Env `tabbing` The tabbing environment works, except that `svg` math and `lateximages` do not yet work inside the environment.

⚠ **math in tabbing** If math is used inside `tabbing`, place `tabbing` inside a `lateximage` environment, which will render the entire environment as a single `svg` image.

```
7286 \newcommand*{\LWR@HTML@tabbing}{%
7287 \LWR@forcenewpage%
7288 \LWR@atbeginverbatim{3}{tabbing}%
7289 \LWR@print@tabbing%
7290 }%
7291
7292 \newcommand*{\LWR@HTML@endtabbing}{%
7293 \LWR@print@endtabbing%
7294 \LWR@afterendverbatim{1}%
7295 }%
7296
7297 \LWR@formatted{tabbing}
7298 \LWR@formatted{endtabbing}

7299 \end{warpHTML}
```

70 Theorems

```
\newtheorem {⟨text⟩} [⟨counter⟩] — or — [⟨oldname⟩] {⟨text⟩}
```

A few minor changes are made to supply HTML tags.

- The entire theorem is placed into a `<div>` of class `theoremcontents`.
- The label for each theorem is placed inside a `` of class `theoremlabel`.
- The contents are placed inside a `<div>` of class `theoremcontents`.

for HTML output: 7300 `\begin{warpHTML}`

```
\@begintheorem {⟨name⟩} {⟨number⟩}
```

```
7301 \renewcommand{\@begintheorem}[2]{%
7302 \LWR@forcenewpage
7303 \BlockClass{theoremcontents}
7304 \trivlist
7305 \item[\InlineClass{theoremlabel}{#1\ #2\ }]\itshape
7306 }
```

```
\@opargbegintheorem {⟨name⟩} {⟨number⟩} {⟨oparg⟩}
```

```
7307 \renewcommand{\@opargbegintheorem}[3]{%
7308 \LWR@forcenewpage
7309 \BlockClass{theoremcontents}
7310 \trivlist
7311 \item[\InlineClass{theoremlabel}{#1\ #2\ (#3)\ }]\itshape
7312 }
```

```
\@endtheorem
```

```
7313 \renewcommand*{\@endtheorem}{%
7314 \endtrivlist
7315 \endBlockClass% theoremcontents
7316 }
```

```
7317 \end{warpHTML}
```

71 Lists

The environments `itemize`, `enumerate`, and `description` are patched when `lwarp` is started. These patches support the standard L^AT_EX environments, as well as those of `enumerate`, `enumitem`, and `paralist`, and at least the French version of `babel`. Additional patches are done on a package-specific basis.

The L^AT_EX source for `itemize` and `enumerate` are found in `source2e`, but the source for `description` is found in `article.cls`, etc.

- empty item** To have an empty item, use `\mbox{}` or a trailing backslash. This forces a new line in print output, matching the new line which will appear in HTML output. Ex:

```
begin{itemize}
item \mbox{}
  \begin{itemize}
...
  \end{itemize}
item \
  \begin{itemize}
...
  \end{itemize}
```

- `\makelabel` While inside a list environment, `lwarp` nullifies a number of T_EX horizontal skip and fill commands, allowing the user to define `\makelabel` for print mode while HTML mode ignores those commands.

-  **label font** When defining `\makelabel` in a list environment, use `\textbf` etc. instead of `\bfseries`.

71.1 List environment

for HTML output: 7318 `\begin{warpHTML}`

`\LWR@printcloselist` May be locally redefined by `enumerate` or `description`.

```
7319 \newcommand*{\LWR@printcloselist}{\LWR@printcloseitemize}
```

`\LWR@printopenlist` May be locally redefined by `enumerate` or `description`.

```
7320 \newcommand*{\LWR@printopenlist}{ul style="\LWR@print@mbox{list-style-type:none}"} 
```

`\@mklab` Removes PDF spacing.

```
7321 \AtBeginDocument{
7322 \def\@mklab#1{%
7323 %      \hfil %
7324 #1}
7325 \let\makelabel\@mklab
7326 }
```

`\@donoparitem` Modified for HTML output by replacing T_EX boxes with plain text. Also removes PDF spacing.

```
7327 \def\@donoparitem{%
7328   \noparitemfalse
7329 %   \global\setbox\@labels\hbox{\hskip -\leftmargin
7330 %                               \unhbox\@labels
7331 %                               \hskip \leftmargin}%
7332 %   \if@minipage\else
7333 %     \tempskipa\lastskip
7334 %     \vskip -\lastskip
7335 %     \advance\tempskipa\outerparskip
7336 %     \advance\tempskipa -\parskip
7337 %     \vskip\tempskipa
7338 %   \fi
7339 }
```

@item Modified for HTML output by replacing TEX boxes with plain text. Also removes PDF spacing.

```
7340 \def\LWR@HTML@item[#1]{%
7341 \LWR@traceinfo{@item}
7342 \if\noparitem
7343   \donoparitem
7344 \else
7345   \if@inlabel
7346     \indent
7347     \par
7348   \fi
7349   \ifhmode
7350     \unskip\unskip
7351     \par
7352   \fi
7353   \if@newlist
7354     \ifnobreak
7355       \nbitem
7356     \else
7357       \addpenalty\beginparpenalty
7358       \addvspace\topsep
7359       \addvspace{-\parskip}%
7360     \fi
7361   \else
7362     \addpenalty\itempenalty
7363     \addvspace\itemsep
7364   \fi
7365   \global\inlabeltrue
7366 \fi
7367 \everypar{%
7368 \minipagetrue
7369 \global\newlistfalse
7370 %   \if@inlabel
7371 %     \global\inlabelfalse
7372 %   {\setbox\z@\lastbox
7373 %     \ifvoid\z@
7374 %       \kern-\itemindent
7375 %     \fi}%
7376 }
```

```
7376 %      \box@\labels
7377 %      \penalty\z@
7378 %      \fi

7379 %      \if@nobreak
7380 %          \nobreakfalse
7381 %          \clubpenalty \zM
7382 %      \else
7383 %          \clubpenalty \clubpenalty
7384 %          \everypar{}%
7385 %      \fi}%

7386 \if@noitemarg
7387   \noitemargfalse
7388 \if@nmbrlist

7389   \refstepcounter@listctr
7390   \fi
7391 \fi

7392 \makelabel{\#1} % extra space
7393 % \sbox@\tempboxa{\makelabel{\#1}%
7394 % \global\setbox@\labels\hbox{%
7395 %   \unhbox@\labels
7396 %   \hskip \itemindent
7397 %   \hskip -\labelwidth
7398 %   \hskip -\labelsep
7399 %   \ifdim \wd@\tempboxa >\labelwidth
7400 %     \box@\tempboxa

7401 % \else
7402 %   \hbox to\labelwidth {\unhbox@\tempboxa}%
7403 % \fi
7404 %   \hskip \labelsep}%
7405 \ignorespaces%
7406 }

\@nbitem

7407 \def\@nbitem{%
7408 %   \tempskipa\@outerparskip
7409 %   \advance\@tempskipa -\parskip
7410 %   \addvspace\@tempskipa
7411 }
```

\LWR@listitem [*<label>*]

Handles \item inside a list, itemize, or enumerate.

See \LWR@openparagraph where extra \hskip is used to leave room for the label while inside a list during paragraph construction.

```

7412 \newcommand*{\LWR@listitem}{%
7413 \LWR@stopars%
7414 \LWR@startnewdepth{listitem}%
7415 \LWR@htmlltag{li}%
7416 \LWR@startpars%
7417 \LWR@origitem%
7418 }

```

\LWR@nulllistfills Nullifies various TEX fill commands, in case they are used inside \makelabel. Problems are caused when these are nullified all the time.

```

7419 \newcommand*{\LWR@nulllistfills}{%
7420 \renewcommand*{\hss}{()}%
7421 \renewcommand*{\llap}[1]{##1}%
7422 \renewcommand*{\rlap}[1]{##1}%
7423 \renewcommand*{\hfil}{()}%
7424 \renewcommand*{\hfilneg}{()}%
7425 \renewcommand*{\hfill}{()}%
7426 }

```

Env list {*<label>*} {*commands*}

```

7427 \newcommand*{\LWR@liststart}{%
7428 \LWR@traceinfo{\LWR@liststart}%
7429 \LWR@stopars%
7430 \LWR@pushoneclose{list}%
7431 \LWR@htmlltag{\LWR@printopenlist}\LWR@orignewline%
7432 \LWR@startpars%
7433 \setlength{\topsep}{0pt}%
7434 \setlength{\partopsep}{0pt}%
7435 \setlength{\itemsep}{0pt}%
7436 \setlength{\parsep}{0pt}%
7437 \setlength{\leftmargin}{0pt}%
7438 \setlength{\rightmargin}{0pt}%
7439 \setlength{\listparindent}{0pt}%
7440 \setlength{\itemindent}{0pt}%
7441 \setlength{\labelsep}{1em}%
7442 \LWR@nulllistfills%
7443 }

7444 \newcommand*{\LWR@listend}{%
7445 \LWR@traceinfo{\LWR@listend}%
7446 \LWR@stopars%
7447 \LWR@closeprevious{list}%
7448 \LWR@startpars%
7449 }

```

71.2 Itemize

\LWR@itemizeitem [*<label>*]

Handles \item inside an itemize or enumerate.

See \LWR@openparagraph where extra \hspace is used to leave room for the label while inside a list during paragraph construction.

```

7450 \newcommand*{\LWR@itemizeitem}{%
7451 \LWR@stoppars%
7452 \LWR@startnewdepth{listitem}%
7453 \LWR@htmltag{li}%
7454 \LWR@startpars%
7455 \LWR@origitem%
7456 }

Env itemize [<options>]

7457 \newcommand*{\LWR@itemizestart}{%
7458 \renewcommand*{\LWR@printcloselist}{\LWR@printcloseitemize}
7459 \renewcommand*{\LWR@printopenlist}{ul style="\LWR@print@mbox{list-style-type:none}"}
7460 \let\item\LWR@itemizeitem%
7461 \LWR@nulllistfills%
7462 }

```

71.3 Enumerate

An HTML unordered list is used with customized L^AT_EX-generated labels.

```

Env enumerate [<options>]

7463 \newcommand*{\LWR@enumeratestart}{%
7464 \renewcommand*{\LWR@printcloselist}{\LWR@printcloseitemize}
7465 \renewcommand*{\LWR@printopenlist}{ul style="\LWR@print@mbox{list-style-type:none}"}
7466 \let\item\LWR@itemizeitem%
7467 \LWR@nulllistfills%
7468 }

```

71.4 Description

\LWR@descitem [<label>] Handles an \item inside a description.

```

7469 \newcommand*{\LWR@descitem}[1][{}]{%
7470 {%
7471 \LWR@stoppars%
7472 \LWR@setlatestname{#1}%
7473 \LWR@startnewdepth{descitem}%

```

While creating the label, encase it inside tags and disable \hspace, which is used by the standard classes to add space to the labels.

```

7474 \begingroup%
7475 \let\LWR@orig@desc@makelabel\makelabel
7476 \renewcommand*{\makelabel}[1]{%

```

```

7477   \LWR@htmlltag{dt}%
7478   \LWR@orig@desc@makelabel{#1}%
7479   \LWR@htmlltag{/dt}%
7480 }
7481 \LWR@select@html@nohspace%
7482 \LWR@origitem[#1]%
7483 \endgroup%
7484 \LWR@orignewline%
7485 \LWR@htmlltag{dd}%
7486 \LWR@startpars%
7487 }
```

Env `description` [*<options>*]

```

7488 \newcommand*\LWR@descriptionstart}{%
7489 \renewcommand*\LWR@printclosedescription}{\LWR@printclosedescription}
7490 \renewcommand*\LWR@printopenlist}{\LWR@printopenlist}{dl}
7491 \let\item\LWR@descitem%
7492 \LWR@nulllistfills%
7493 }
```

71.5 Patching the lists

`\LWR@patchlists` Patches list environments.

`\LWR@patchlists` remembers `\item` as defined by whatever packages have been loaded, then patches the `itemize`, `enumerate`, and `description` environments and `\item`. This works with the native L^AT_EX environments, as well as those provided by `enumitem`, `enumerate`, and `paralist`.

```

7494 \newcommand*\LWR@patchlists}{%
7495   \LetLtxMacro{\item}{\LWR@listitem}%
7496   \LetLtxMacro{\@item}{\LWR@HTML@item}%
7497   \renewcommand*\@trivlist}{%
7498     \LWR@traceinfo{@trivlist start}%
7499     \LWR@liststart%
7500     \LWR@orig@trivlist%
7501     \LWR@traceinfo{@trivlist done}%
7502   }%
7503   \renewcommand*\trivlist}{%
7504     \LWR@traceinfo{trivlist}%
7505     \LWR@origtrivlist%
7506   }%
7507   \renewcommand*\endtrivlist}{%
7508     \LWR@traceinfo{endtrivlist start}%
7509     \LWR@origendtrivlist\LWR@listend%
7510     \LWR@traceinfo{endtrivlist done}%
7511   }%
7512   \renewcommand*\itemize}{%
7513     \LWR@itemizestart\LWR@origitemize}%
7514 }%
7515 \renewcommand*\enumerate}{%
```

```

7516      \LWR@enumeratestart\LWR@origenumerate%
7517  }%
7518  \renewcommand*\{description}{%
7519      \LWR@descriptionstart\LWR@origdescription%
7520  }%
7521 }

```

\LWR@restoreoriglists Restores the original `trivlist` environment.

```

7522 \newcommand*\{LWR@restoreoriglists}{%
7523 \LWR@traceinfo{LWR@restoreoriglists}%
7524 \LetLtxMacro\item\{LWR@origitem%
7525 \LetLtxMacro\@item\{LWR@orig@item%
7526 \let\@trivlist\{LWR@orig@trivlist%
7527 \let\trivlist\{LWR@origtrivlist%
7528 \let\endtrivlist\{LWR@origendtrivlist%
7529 \LetLtxMacro\itemize\{LWR@origitemize%
7530 \LetLtxMacro\enditemize\{LWR@endorigitemize%
7531 \LetLtxMacro\enumerate\{LWR@origenumerate%
7532 \LetLtxMacro\endenumerate\{LWR@endorigenumerate%
7533 \LetLtxMacro\description\{LWR@origdescription%
7534 \LetLtxMacro\enddescription\{LWR@endorigdescription%
7535 \let\@mklab\{LWR@orig@mklab%
7536 \let\makelabel\{LWR@origmakelabel%
7537 \let\@donoparitem\{LWR@orig@donoparitem%
7538 \let\@nbitem\{LWR@orig@nbitem%
7539 }

```

```
7540 \end{warpHTML}
```

72 Tabular

This is arguably the most complicated part of the entire package. Numerous tricks are employed to handle the syntax of the L^AT_EX core and the various tabular-related packages.

72.1 Limitations

Tabular mostly works as expected, but pay special attention to the following, especially if working with environments, macros inside tabulars, multirows, `siunitx` S columns, or the packages `multirow`, `longtable`, `supertabular`, or `xtab`.

Defining macros and environments:

⚠ Misplaced alignment
tab character &

- When defining environments or macros which include tabular and instances of the & character, it may be necessary to make & active before the environment or macro is defined, then restore & to its default catcode after, using the following commands. These are ignored in print mode.

```
\StartDefiningTabulars
<define macros or environments using tabular and & here>
\StopDefiningTabulars
```

 floatrow

This includes before and after defining any macro which used \ttabbox from floatrow.

 tabular inside another environment

- When creating a new environment which contains a tabular environment, lwarp's emulation of the tabular does not automatically resume when the containing environment ends, resulting in corrupted HTML rows. To fix this, use \ResumeTabular as follows. This is ignored in print mode.

```
\StartDefiningTabulars % because & is used in a
definition
\newenvironment{outerenvironment}
{
\begin{tabular}{cc}
left & right \\
\end{tabular}
}
{
\TabularMacro\ResumeTabular
left & right \\
\end{tabular}
}
\StopDefiningTabulars
```

Cell contents:

 macro in a table

- Using a custom macro inside a tabular data cell may result in an extra HTML data cell tag, corrupting the HTML table. To avoid this, use \TabularMacro just before the macro. This is ignored in print mode.

```
\TabularMacro\somemacro & more row contents \\
```

Column specifiers:

 @ and !

- Only one each of @ and ! is used at each column, and they are used in that order.

 \multirow

- In \multirow cells, the print version may have extra instances of <, >, @, and ! cells on the second and later rows in the \multirow which do not appear in the HTML version.

 \newcolumntype

- \newcolumntype is ignored; unknown column types are set to l.

Rules:

 vertical rules

- Doubled \hlines, \midrules, and vertical rules are supported.
- Vertical rules next to either side of an @ or ! column are displayed on both sides of the column.

 width and trim

- Width options are honored. Trim options are converted to rounded top corners. Trim corners are not rounded with @ or ! columns, and full-width rules ignore trim. When given an optional width, each cell is styled to create the custom border. Without an optional width, the entire row is given a class to assign the standard border.

combined rules

- If you wish to use `\cmidrule` followed by `\bottomrule`, it may be necessary to use:

```
\cmidrule{2-3} \\[-2ex]
\bottomrule
```

The optional `-2ex` is ignored in HTML, but improves the visual formatting in the print output.

 `\warpprintonly`
 Misplaced `\noalign`

- For `\toprule` and `\bottomrule`, when combined with a `warpprint` or `warpHTML` environment, if a “Misplaced `\noalign`” error occurs, change

This & That `\endhead`

to

```
\warpprintonly{This & That \endhead}
```

and likewise with the other `\end` headings. Keep the `\endfirsthead` row unchanged, as it is still relevant to HTML output.

Other:

- `tabularx` ignores the width, but X columns do produce paragraph columns or multicolumns.

- For `longtable`, place headings and footings which do not apply to HTML inside `\warpprintonly{}`.

- For S columns (from the `siunitx` package), while producing print output, anything non-numeric must be placed inside {} braces, including commands such as `\multirow`. While producing HTML output, though, anything placed inside braces is not seen by lwarp’s tabular handling algorithm. To resolve this problem, make a copy of the row, with one version for print output, containing the extra braces, and another version for HTML output, without the extra braces, such as:

```
\warpprintonly{1 & 2 & {\multirow{2}{2cm}{Text}} & 3 \\}
\warpHTMLonly{1 & 2 & \multirow{2}{2cm}{Text} & 3 \\}
```

- In L^AT_EX, a `tabular` may be placed inside a `minipage`, but in HTML a `<table>` may not be inside a ``. If this situation is detected, a warning is printed instructing the user to isolate the `` using `\warpprintonly` or the `warpprint` environment.

for HTML output: 7541 `\begin{warpHTML}`

72.2 Temporary package-related macros

These macros are temporary placeholders for macros defined by various packages. If the relevant package is not loaded, these placeholders are used instead.

72.2.1 arydshln

Emulated by the original L^AT_EX non-dashed versions.

```
7542 \LetLtxMacro{\hdashline}{\hline}
7543 \LetLtxMacro{\cdashline}{\cline}
7544 \LetLtxMacro{\firstdashline}{\hline}
7545 \LetLtxMacro{\lastdashline}{\hline}
```

72.3 Token lookahead

Used by `\LWR@futureonospacelet` to look at the next token.

`\LWR@mynexttoken`

7546 `\newcommand{\LWR@mynexttoken}{\relax}`

`\futurelet` copies the next token then executes a function to analyze it.

`\LWR@futureonospacelet` does the same, but ignores intervening white space

Based on the `booktabs` style:

`\LWR@futureonospacelet`

```
7547 \def\LWR@futureonospacelet#1{\def\LWR@cs{#1}%
7548 \afterassignment\LWR@fnslone\let\nexttoken= }
7549
7550 \def\LWR@fnslone{\expandafter\futurelet\LWR@cs\LWR@fnsltwo}
7551
7552 \def\LWR@fnsltwo{%
7553 \expandafter\ifx\LWR@cs@\sptoken\let\next=\LWR@fnslthree%
7554 \else\let\next=\nexttoken\fi\next}
7555
7556 \def\LWR@fnslthree{\afterassignment\LWR@fnslone\let\next= }
```

`\LWR@getmynexttoken` Looks ahead and copies the next token into `\LWR@mynexttoken`.

```
7557 \newcommand*{\LWR@getmynexttoken}{%
7558   \LWR@traceinfo{\LWR@getmynexttoken}%
7559 % nothing must follow this next line
7560   \LWR@futureonospacelet{\LWR@mynexttoken}\LWR@tabledatacolumntag
7561 }
```

72.4 Tabular variables

In order to support nested tabulars, each of these is used locally. For local counters, `etoolbox`'s `\defcounter` and `l warp`'s new `\defaddtocounter` are used.

Bool `LWR@startedrow` True if should print a row tag before this column.

```
7562 \newbool{\LWR@startedrow}
7563 \boolfalse{\LWR@startedrow}
```

Bool `LWR@tabularcelladded` True if have added a data cell for this position.

```
7564 \newbool{\LWR@tabularcelladded}
7565 \boolfalse{\LWR@tabularcelladded}
```

Ctr LWR@hlines Number of \hlines or \midrules above the next row.

7566 \newcounter{LWR@hlines}

Ctr LWR@hdashedlines Number of arydshln dashed lines above the next row.

7567 \newcounter{LWR@hdashedlines}

Bool LWR@doingtbrule True if the next row will have a top/bottom rule above it.

7568 \newbool{LWR@doingtbrule}
7569 \boolfalse{LWR@doingtbrule}

Bool LWR@doingcmidrule True if the next row will have a cmidrule above it.

This is used by \LWR@tabularfinishrow to force a final empty row to create the border for the \cmidrule.

7570 \newbool{LWR@doingcmidrule}
7571 \boolfalse{LWR@doingcmidrule}

Bool LWR@tableparcell True if are handling a paragraph inside a table cell, so must close the paragraph tag before moving on.

7572 \newbool{LWR@tableparcell}

Bool LWR@skippingmrowcell True if are doing an empty \multirow cell, and thus there is no data tag to close.

7573 \newbool{LWR@skippingmrowcell}

Bool LWR@skippingmcolrowcell True if are doing an empty \multicolumn cell, and thus there is no data tag to close, and do not print @ and ! columns.

7574 \newbool{LWR@skippingmcolrowcell}

Bool LWR@usedmultirow Used to error if used \multirow or \multicolumn without using \mrowcell or \mcolrowcell.

7575 \newbool{LWR@usedmultirow}

Bool LWR@foundmrowcell Used to error if used \multirow or \multicolumn without using \mrowcell or \mcolrowcell.

7576 \newbool{LWR@foundmrowcell}

Bool LWR@skipatbang True if just finished a \multicolumn so should not create the trailing @ or ! columns table data cells.

7577 \newbool{LWR@skipatbang}

Bool LWR@emptyatbang True if finishing a row and should print empty @ or ! column table data cells.

7578 \newbool{LWR@emptyatbang}

Bool `LWR@intabularmetadata` True if are in a tabular but not in a data cell. Used to prevent extra `HTML` breaks if not inside table data.

```
7579 \newbool{LWR@intabularmetadata}
7580 \boolfalse{LWR@intabularmetadata}
```

Bool `LWR@exittingtabular` When `\end` is found, turns off the next opening data tag.

```
7581 \newbool{LWR@exittingtabular}
```

Bool `LWR@tabularmutemods` Mutes `HTML` output for `@`, `!`, `<` and `>`.

This is used while printing the final row to generate `\bottomrules`.

```
7582 \newbool{LWR@tabularmutemods}
```

Bool `LWR@validtablecol` True if found a valid table column type.

```
7583 \newbool{LWR@validtablecol}
```

Bool `LWR@opttablecol` True if found a table column optional argument.

```
7584 \newbool{LWR@opttablecol}
```

Used to add a style to a table data cell:

```
7585 \newbool{LWR@tdhavecellstyle}
```

Ctr `LWR@tabularDepth` Tracks whether & is being used inside a tabular.

```
7586 \newcounter{LWR@tabulardepth}
7587 \setcounter{LWR@tabulardepth}{0}
```

Ctr `LWR@tabularpardepth` Tracks whether should look ahead at the next token when encountering a `\par` while processing tabular contents.

When `LWR@tabularpardepth` is deeper than `LWR@tabulardepth` then `lwarp` has started looking at the contents of the tabular, and thus any `\pars` encountered must be followed by another token lookahead.

```
7588 \newcounter{LWR@tabularpardepth}
7589 \setcounter{LWR@tabularpardepth}{0}
```

```
7590 \newcommand*{\LWR@colsresult}{}%temp storage for column format results
7591 \newcommand*{\LWR@position}{}%
7592 \newcommand*{\LWR@pleft}{}%
7593 \newcommand*{\LWR@pright}{}%
```

`LWR@tablecolspec` Holds the parsed column specification, of total width `LWR@tabletotalLaTeXcols`, not counting `@` and `!` columns.

Will contain a string such as `llrrccpc`, exactly one letter per `LATEX` table column, without `@`, `!`, `>`, `<`, or the vertical bar.

\LWR@strresult Holds the result of Str functions.

```
7594 \providecommand*\LWR@strresult{}  
7595 \providecommand*\LWR@strresulttwo{}
```

\LWR@origcolspec Holds the original column specs given to tabular.

```
7596 \newcommand*\LWR@origcolspec{}
```

Ctr LWR@tablecolspecwidth Holds the number of tokens in the table columns specification.

This is includes one for each @, !, <, > column, and also one for each of the parameters of p, @, !, <, > columns, and three for each D column.

(This is not the total # of LATEX columns in the table.)

```
7597 \newcounter{LWR@tablecolspecwidth}
```

Ctr LWR@tablecolspecindex While parsing the LATEX table column specification, starts at 1 and is incremented per token of the specification.

```
7598 \newcounter{LWR@tablecolspecindex}
```

Ctr LWR@tableLaTeXcolindex While producing the table, resets to 1 at the start of the table and also at each end of line, and is incremented by 1 by each ampersand.

```
7599 \newcounter{LWR@tableLaTeXcolindex}
```

Ctr LWR@tabletotalLaTeXcols While parsing a table column specification, begins at 0 and increments by 1 per LATEX table column. Eventually holds the final number of LATEX table columns in each row, not counting @ and ! columns. (In HTML, @ and ! cells become their own columns, but are not included in LWR@tabletotalLaTeXcols.)

```
7600 \newcounter{LWR@tabletotalLaTeXcols}
```

Ctr LWR@tabletotalLaTeXcolsnext Holds the next LATEX table column index while parsing, equal to one more than LWR@tabletotalLaTeXcols.

```
7601 \newcounter{LWR@tabletotalLaTeXcolsnext}
```

LWR@colatspec A data array of specifications for @ columns. The leftmost's index is lefthead, the others are counter values. See section 42.

LWR@colbangspec A data array of specifications for ! columns. The leftmost's index is lefthead, the others are counter values. See section 42.

LWR@colbeforespec A data array of specifications for > columns.

LWR@col afterspec A data array of specifications for < columns.

LWR@colbarspec A data array of specifications for vertical rules.

Ctr LWR@cellcolordepth Counts how many cell color <div>s were added to the current tabular data cell.

7602 \newcounter{LWR@cellcolordepth}

72.4.1 Multicolumn variables

7603 \newcounter{LWR@tablemulticolwidth}

Indexes into the multicolumn specification:

7604 \newcounter{LWR@tablemulticolspos}

Remembers multicolumn vertical rules if found in the column spec.

7605 \newcounter{LWR@mcolvertbarsl}

7606 \newcounter{LWR@mcolvertbarsr}

7607 \newcounter{LWR@mcolvertbarsldash}

7608 \newcounter{LWR@mcolvertbarsrdash}

7609 \newbool{LWR@mcolvertbaronleft}

72.4.2 Longtable variables

Bool LWR@starredlongtable Per the caption pacakge, step the counter if longtable*.

7610 \newbool{LWR@starredlongtable}

7611 \boolefalse{LWR@starredlongtable}

72.4.3 Midrule variables

Ctr LWR@midrulecounter Indexes across the LWR@midrules and LWR@trim<l/r>rules data arrays.

7612 \newcounter{LWR@midrulecounter}

72.5 Handling &, @, !, and bar

For technical discussion regarding problems redefining \&, See:

<http://tex.stackexchange.com/questions/11638/>

[where-do-i-find-futurelets-nasty-behaviour-documented/11860#11860](http://tex.stackexchange.com/questions/11860#11860)

\LWR@instertatbangcols

7613 \newcommand*\{\LWR@insertatbangcols}{%

7614 \ifbool{LWR@skipatbang}{%

7615 {}%

7616 {}%

7617 \LWR@printatbang{at}{\arabic{LWR@tableLaTeXcolindex}}%

7618 \LWR@printatbang{bang}{\arabic{LWR@tableLaTeXcolindex}}%

7619 }%

7620 }

\LWR@closetabledatcell If \LWR@skippingmrowcell or \LWR@skippingmcolrowcell then there is no data tag to close. Otherwise, close any paragraphs, then close the data tag.

```

7621 \newcommand*{\LWR@closetabledatcell}{%
7622     \booltrue{\LWR@intabularmetadata}%
7623     \ifbool{\LWR@exittingtabular}%
7624     {%
7625         \LWR@stoppars%
7626     }%
7627     % not exiting tabular
7628     \ifboolexpr{bool{\LWR@skippingmrowcell} or bool{\LWR@skippingmcolrowcell}}{%
7629     {%
7630         \LWR@stoppars%

```

If not skipping a \multicolumnrow cell, insert the @ and ! columns after this non-existent column.

```

7631         \ifbool{\LWR@skippingmcolrowcell}{%
7632             {}%
7633             {\LWR@insertatbangcols}%
7634         }%
7635         {% not skippingmrowcell

```

Insert any < then any @ and ! column contents, unless muted for the \bottomrule or a \multicolumn:

```

7636         \unskip%
7637         \ifboolexpr{%
7638             bool{\LWR@tabularmutemods} or
7639             bool{\LWR@skipatbang} or
7640             bool{\LWR@emptyatbang}%
7641         }%
7642         {}%
7643         {%
7644             \LWR@getexparray{\LWR@col afterspec}%
7645             {\arabic{\LWR@tableLaTeXcolindex}}%
7646         }%

```

Close paragraphs:

```

7647         \LWR@stoppars%
7648         \boolfalse{\LWR@tableparcell}%

```

Close the table data cell.

Close any color <div>s.

```

7649         \whileboolexpr{test {\ifnumcomp{\value{\LWR@cellcolordepth}}{>}{0}}}{{%
7650             \LWR@htmlltag{/div}\LWR@orignewline%
7651             \defaddtocounter{\LWR@cellcolordepth}{-1}%
7652         }%

```

Skip the @ and ! cells if are closing a multicolumn cell.

```
7653      \leavevmode\unskip\LWR@htmltag{/td}\LWR@orignewline%
7654      \global\booltrue{\LWR@tabularcelladded}%
7655      \LWR@insertatbangcols%
7656      }% not skipping mrowcell
7657      }% not exiting tabular
7658      \boolfalse{\LWR@skippingmrowcell}%
7659      \boolfalse{\LWR@skippingmcolrowcell}%
7660      \boolfalse{\LWR@skipatbang}%
```

Color control. Column is set by >{} for each cell, so it must be cleared here.

```
7661 \def\LWR@cellHTMLcolor{}%
7662 \def\LWR@columnHTMLcolor{}%
7663 \defcounter{\LWR@cellcolordepth}{0}%
7664 }
```

When not used inside a tabular, & performs its original function as recorded here (with catcode 4).

```
7665 \let\LWR@origampmacro&
7666 \end{warpHTML}
```

72.5.1 Handling &

for HTML output: 7667 \begin{warpHTML}

- & Will behave depending on whether it is being used inside tabular.
- & is redefined to test whether it is inside a tabular environment, in which case it performs special processing for HTML conversion. If not, it behaves normally.

```
7668 \newcommand*{\LWR@tabularampersand}{%
7669     \LWR@traceinfo{\LWR@tabularampersand}%
7670     \ifnumcomp{\value{\LWR@tabulardepth}}{>}{0}%
7671     {%
```

If not skipping a multirow cell, close the current data cell.

```
7672 \unskip%
7673 \LWR@closetabledatacell%
```

Move to the next column.

```
7674 \defaddtocounter{\LWR@tableLaTeXcolindex}{1}%
```

Have not yet added data in this column:

```
7675 \global\boolfalse{\LWR@tabularcelladded}%
```

Look at the next token to decide multi or single column data tag.

```
7676      \LWR@getmynexttoken%
7677  }%
```

If not inside a tabular, performs the original action:

```
7678  {%
7679    \LWR@origampmacro%
7680  }%
7681 }
```

& is left with its original catcode for now.

tikz package seems to require & be left alone until after tikz has been loaded. Also, cleveref uses the ampersand in one of its options.

& is made active inside a tabular.

& is left alone when in math alignments.

72.5.2 Filling an unfinished row

\LWR@tabularfinishrow Adds empty table cells if necessary to finish the row.

At the end of the table, if any bottom rules are requested then an empty row must be generated to form the borders which show the rules.

```
7682 \newcommand*\LWR@tabularfinishrow}{%
```

If not exiting the tabular, or doing a rule, or have already started a row, finish this row:

```
7683  \ifboolexpr{%
7684    not \LWR@exittingtabular} or%
7685    \bool{\LWR@doingtbrule} or%
7686    \bool{\LWR@doingcmidrule} or%
7687    test{\ifnumcomp{\value{\LWR@hlines}}{>}{0}} or%
7688    test{\ifnumcomp{\value{\LWR@hdashedlines}}{>}{0}} or%
7689    \bool{\LWR@startedrow}%
7690  }{%
```

To temporarily turn off \LWR@exittingtabular so that table data tags will still be generated:

If generating a final row for the \bottomrule borders, turn off the @, !, <, and > column output:

```
7691  \ifbool{\LWR@exittingtabular}{%
7692    \booltrue{\LWR@tabularmutemods}%
7693  }{%
7694    \boolfalse{\LWR@tabularmutemods}%
7695  }%
```

Locally reenable the table data tags until finished with the final row:

```
7696      \boolfalse{LWR@exittingtabular}%
```

Generate table data tags and ampersands until the right edge:

```
7697      \whileboolexpr{%
7698          test {
7699              \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}{}
7700                  {\value{LWR@tabletotalLaTeXcols}}%
7701          } or %
7702          (%
7703              \bool{LWR@intabularmetadata} and%
7704              not \bool{LWR@tabularcelladded} and%
7705              test {
7706                  \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{=}{}
7707                      {\value{LWR@tabletotalLaTeXcols}}%
7708              }%
7709          )%
7710      }%
7711  {%
7712      \LWR@tabledatasinglecolumntag%
```

The following is essentially \LWR@tabularampersand with LWR@emptyatbang added to empty the following cells:

```
7713      \LWR@closetabledatacell%
7714      \defaddtocounter{LWR@tableLaTeXcolindex}{1}%
7715      \global\boolfalse{LWR@tabularcelladded}%
7716      \booltrue{LWR@emptyatbang}%
```

Starts the next cell:

```
7717      \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}{}
7718          {\value{LWR@tabletotalLaTeXcols}}%
7719          {\LWR@getmynexttoken}%
7720          {}%
7721      }%
```

Reenable the original LWR@exittingtabular to close the entire table:

```
7722      \ifbool{LWR@tabularmutemods}{%
7723          \booltrue{LWR@exittingtabular}%
7724      }{%
7725          \boolfalse{LWR@exittingtabular}%
7726      }%
7727      \boolfalse{LWR@tabularmutemods}%

7728      \boolfalse{LWR@emptyatbang}%
7729  }{}% ifboolexpr
7730 }
```

72.6 Handling \\

Inside tabular, \\ is redefined to \LWR@tabularendofline

Throws away options \\[dim] or *

\LWR@tabularendofline

```
7731 \NewDocumentCommand{\LWR@tabularendofline}{s o}{%
```

Finish the row:

```
7732   \ifnumcomp{\value{\LWR@tableLaTeXcolindex}}{<}{}
7733     {\value{\LWR@tabletotalLaTeXcols}}%
7734     {\LWR@tabularfinishrow}%
7735     {\LWR@closetabledatacell}%
7736   \LWR@htmlltag{/tr}\LWR@orignewline%
```

xcolor row color support:

```
7737   \@rowc@lors%
```

No longer inside a data cell:

```
7738   \booltrue{\LWR@intabularmetadata}%
```

Not yet started a table row:

```
7739   \boolfalse{\LWR@startedrow}%
```

Additional setup:

```
7740   \defcounter{\LWR@hlines}{0}%
7741   \defcounter{\LWR@hdashedlines}{0}%
7742   \boolfalse{\LWR@doingtbrule}%
7743   \boolfalse{\LWR@doingcmidrule}%
7744   \LWR@clearmidrules%
```



```
7745   \def\LWR@rowHTMLcolor{}
```

Start at first column:

```
7746   \defcounter{\LWR@tableLaTeXcolindex}{1}%
```

Have not yet added data in this column:

```
7747   \global\boolfalse{\LWR@tabularcelladded}%
```

Allow TeX to flush the pending paragraph. Not doing so causes a slowdown for very large tables.

```
7748   \LWR@stopars%
7749   \LWR@origpar%
```

Look at the next token to decide between single column data tag or a special case:

```
7750     \LWR@getmynexttoken%
7751 }
```

72.7 Looking ahead in the column specifications

```
\LWR@columnspeclookahead {<offset>}
```

Looks offset tokens ahead in the column specification, setting \LWR@strresulttwo.

The w column alignment will be seen as a single unit such as {c}.

```
7752 \newcommand*{\LWR@columnspeclookahead}[1]{%
7753     \setcounter{\LWR@tempcountone}{\value{\LWR@tablecolspectindex}}%
7754     \addtocounter{\LWR@tempcountone}{#1}%
7755     \fullexpandarg%
7756     \StrChar{\LWR@origcolspec}{\arabic{\LWR@tempcountone}}[\LWR@strresulttwo]%
```

Get the contents of the first group in \LWR@strresulttwo:

```
7757     \exploregroups%
7758     \StrChar{\LWR@strresulttwo}{1}[\LWR@strresulttwo]%
7759     \noexploregroups%
7760 }
```

72.8 Parsing @, >, <, !, bar columns

Holds the parsed argument for @, >, <, or ! columns:

```
7761 \newcommand*{\LWR@colparameter}{}%
```

\LWR@parseatcolumn Handles @{text} columns.

```
7762 \newcommand*{\LWR@parseatcolumn}{}%
```

Move to the next token after the '@':

```
7763     \LWR@traceinfo{@ column}%
7764     \defaddtocounter{\LWR@tablecolspectindex}{1}%
```

Read the next token into \LWR@colparameter, expanding once:

```
7765     \LWR@traceinfo{about to read the next token:}%
7766     \expandarg%
7767     \StrChar{\LWR@origcolspec}%
7768         {\arabic{\LWR@tablecolspectindex}}[\LWR@colparameter]%
7769     \fullexpandarg%
```

Store the result into a data array, expanding once out of \LWR@colparameter:

```

7770      \LWR@traceinfo{have now read the next token}%
7771      \ifnumcomp{\value{\LWR@tabletotalLaTeXcols}}{=}{0}%
7772      {% left edge of the table:
7773          \LWR@traceinfo{at the left edge}%
7774          \LWR@setexpparray{\LWR@colatspec}%
7775              {leftedge}%
7776              {\expandafter\@firstofone\LWR@colparameter}%
7777          \LWR@traceinfo{at the left edge: %}
7778          \LWR@getexpparray{\LWR@colatspec}{leftedge}}%
7779      }%
7780      {% not at the left edge:
7781          \LWR@traceinfo{not at the left edge}%
7782          \LWR@setexpparray{\LWR@colatspec}%
7783              {\arabic{\LWR@tabletotalLaTeXcols}}%
7784              {\expandafter\@firstofone\LWR@colparameter}%
7785          \LWR@traceinfo{at \arabic{\LWR@tabletotalLaTeXcols}: %}
7786          \LWR@getexpparray{\LWR@colatspec}{\arabic{\LWR@tabletotalLaTeXcols}}}%
7787      }%
7788      \let\LWR@colparameter\relax%
7789      \booltrue{\LWR@validtablecol}%
7790 }

```

\LWR@parsebangcolumn Handles !{text} columns.

```
7791 \newcommand*{\LWR@parsebangcolumn}{%
```

Move to the next token after the '!':

```

7792      \LWR@traceinfo{bang column}%
7793      \defaddtocounter{\LWR@tablecolspecindex}{1}%

```

Read the next token into \LWR@colparameter, expanding once:

```

7794      \LWR@traceinfo{about to read the next token:}%
7795      \expandarg%
7796      \StrChar{\LWR@origcolspec}%
7797          {\arabic{\LWR@tablecolspecindex}}[\LWR@colparameter]%
7798      \fullexpandarg%

```

Store the result into a data array, expanding once out of \LWR@colparameter:

```

7799      \LWR@traceinfo{have now read the next token}%
7800      \ifnumcomp{\value{\LWR@tabletotalLaTeXcols}}{=}{0}%
7801      {% left edge of the table:
7802          \LWR@traceinfo{at the left edge}%
7803          \LWR@setexpparray{\LWR@colbangspec}%
7804              {leftedge}%
7805              {\expandafter\@firstofone\LWR@colparameter}%
7806      }%
7807      {% not at the left edge:
7808          \LWR@traceinfo{not at the left edge}%
7809          \LWR@setexpparray{\LWR@colbangspec}%

```

```

7810      {\arabic{LWR@tabletotalTeXcols}}%
7811      {\expandafter\@firstofone\LWR@colparameter}%
7812      \LWR@traceinfo{bang \arabic{LWR@tabletotalTeXcols}: \LWR@colparameter!}%
7813  }%
7814  \let\LWR@colparameter\relax%
7815  \booltrue{\LWR@validtablecol}%
7816 }
```

\LWR@parsebeforecolumn Handles >{text} columns.

```
7817 \newcommand*{\LWR@parsebeforecolumn}{%
```

Move to the next token after the '>':

```
7818 \defaddtocounter{LWR@tablecolsindex}{1}%
```

Read the next token, expanding once into \LWR@colparameter:

```

7819  \expandarg%
7820  \StrChar{\LWR@origcolspec}%
7821  {\arabic{LWR@tablecolsindex}}[\LWR@colparameter]%
7822  \fullexpandarg%
```

Store the result into a data array, expanding once out of \LWR@colparameter:

```

7823  \LWR@setexpparray{LWR@colbeforespec}%
7824  {\arabic{LWR@tabletotalTeXcolsnext}}%
7825  {\expandafter\@firstofone\LWR@colparameter}%
7826  \let\LWR@colparameter\relax%
7827  \booltrue{\LWR@validtablecol}%
7828 }
```

\LWR@parseaftercolumn Handles <{text} columns.

```
7829 \newcommand*{\LWR@parseaftercolumn}{%
```

Move to the next token after the '<':

```
7830 \defaddtocounter{LWR@tablecolsindex}{1}%
```

Read the next token, expanding once into \LWR@colparameter:

```

7831  \expandarg%
7832  \StrChar{\LWR@origcolspec}%
7833  {\arabic{LWR@tablecolsindex}}[\LWR@colparameter]%
7834  \fullexpandarg%
```

Store the result into a data array, expanding once out of \LWR@colparameter:

```

7835  \LWR@setexpparray{LWR@col afterspec}%
7836  {\arabic{LWR@tabletotalTeXcols}}%
7837  {\expandafter\@firstofone\LWR@colparameter}%
```

```

7838     \let\LWR@colparameter\relax%
7839     \booltrue{\LWR@validtablecol}%
7840 }

```

\LWR@parsebarcolumn Handles vertical rules.

```

7841 \newcommand*{\LWR@parsebarcolumn}{%
7842     \LWR@traceinfo{\LWR@parsebarcolumn}%

```

Remember the bar at this position:

```

7843     \ifnumcomp{\value{\LWR@tabletotalLaTeXcols}}{=}{0}%
7844     {% left edge of the table:
7845         \edef\LWR@tempone{\LWR@getexpparray{\LWR@colbarspec}{leftedge}}%
7846         \ifdefstring{\LWR@tempone}{tvertbarl}%
7847             {\LWR@setexpparray{\LWR@colbarspec}{leftedge}{tvertbarldouble}}%
7848             {\LWR@setexpparray{\LWR@colbarspec}{leftedge}{tvertbarl}}%
7849     }%
7850     {% not at the left edge:
7851         \edef\LWR@tempone{%
7852             \LWR@getexpparray{\LWR@colbarspec}{\arabic{\LWR@tabletotalLaTeXcols}}%
7853         }%
7854         \ifdefstring{\LWR@tempone}{tvertbarr}%
7855             {%
7856                 \LWR@setexpparray{\LWR@colbarspec}{%
7857                     \arabic{\LWR@tabletotalLaTeXcols}}{tvertbarrdouble}}%
7858             {%
7859                 \LWR@setexpparray{\LWR@colbarspec}{%
7860                     \arabic{\LWR@tabletotalLaTeXcols}}{tvertbarr}}%
7861             {%
7862                 \LWR@setexpparray{\LWR@colbarspec}{%
7863                     \arabic{\LWR@tabletotalLaTeXcols}}{tvertbarr}}%
7864     }%
7865     \booltrue{\LWR@validtablecol}%
7866 }

```

\LWR@parsecoloncolumn Handles vertical rules.

```

7866 \newcommand*{\LWR@parsecoloncolumn}{%
7867     \LWR@traceinfo{\LWR@parsecoloncolumn}%

```

Remember the bar at this position:

```

7868     \ifnumcomp{\value{\LWR@tabletotalLaTeXcols}}{=}{0}%
7869     {% left edge of the table:
7870         \edef\LWR@tempone{\LWR@getexpparray{\LWR@colbarspec}{leftedge}}%
7871         \ifdefstring{\LWR@tempone}{tvertbarldash}%
7872             {\LWR@setexpparray{\LWR@colbarspec}{leftedge}{tvertbarldoubledash}}%
7873             {\LWR@setexpparray{\LWR@colbarspec}{leftedge}{tvertbarldash}}%
7874     }%
7875     {% not at the left edge:
7876         \edef\LWR@tempone{%
7877             \LWR@getexpparray{\LWR@colbarspec}{\arabic{\LWR@tabletotalLaTeXcols}}%
7878         }%

```

```

7879      \ifdefstring{\LWR@tempone}{tvertbarrdash}%
7880          {\LWR@setexpararray{\LWR@colbarspec}%
7881              {\arabic{\LWR@tabletotalLaTeXcols}}{tvertbarrdoubledash}}%
7882          {\LWR@setexpararray{\LWR@colbarspec}%
7883              {\arabic{\LWR@tabletotalLaTeXcols}}{tvertbarrdash}}%
7884      }%
7885      \booltrue{\LWR@validtablecol}%
7886 }

```

\LWR@parsesemicoloncolumn Handles vertical rules.

```
7887 \newcommand*{\LWR@parsesemicoloncolumn}{%
```

Treat ; as a : column:

```
7888 \LWR@parsecoloncolumn%
```

Skip the following width token:

```

7889 \defaddtocounter{\LWR@tablecolsindex}{1}%
7890 }

```

72.9 Parsing ‘l’, ‘c’, or ‘r’ columns

\LWR@parsenormalcolumn {*thiscolumn*}

Add to the accumulated column specs, advance counters, and pre-clear another column of at, before, and after specs.

```

7891 \newcommand*{\LWR@parsenormalcolumn}[1]{%
7892     \defaddtocounter{\LWR@tabletotalLaTeXcols}{1}%
7893     \defaddtocounter{\LWR@tabletotalLaTeXcolsnext}{1}%
7894     \LWR@setexpararray{\LWR@tablecolspec}{\arabic{\LWR@tabletotalLaTeXcols}}{\#1}%
7895     \LWR@traceinfo{normal column \arabic{\LWR@tabletotalLaTeXcols}: #1}%
7896     \LWR@setexpararray{\LWR@colatspec}{\arabic{\LWR@tabletotalLaTeXcolsnext}}{}%
7897     \LWR@setexpararray{\LWR@colbangspec}{\arabic{\LWR@tabletotalLaTeXcolsnext}}{}%
7898     \LWR@setexpararray{\LWR@colbeforespec}{\arabic{\LWR@tabletotalLaTeXcolsnext}}{}%
7899     \LWR@setexpararray{\LWR@colafterspec}{\arabic{\LWR@tabletotalLaTeXcolsnext}}{}%
7900     \LWR@setexpararray{\LWR@colbarspec}{\arabic{\LWR@tabletotalLaTeXcolsnext}}{}%
7901     \booltrue{\LWR@validtablecol}%
7902 }

```

72.10 Parsing ‘p’, ‘m’, or ‘b’ columns

\LWR@parsepcolumn {*thiscolumn*} The width will be ignored.

```
7903 \newcommand*{\LWR@parsepcolumn}[1]{%
```

Converts to the given column type:

```
7904 \LWR@parsenormalcolumn{#1}%
```

Skips the following width token:

```
7905 \defaddtocounter{\LWR@tablecolspectindex}{1}%
7906 }
```

72.11 Parsing ‘w’ columns

`\LWR@parsewcolumn` The width will be ignored.

```
7907 \newcommand*{\LWR@parsewcolumn}{%
7908   \LWR@columnspeclookahead{1}%
7909   \expandafter\expandafter\expandafter{\LWR@strresulttwo}%
}
```

Skips the following width and alignment tokens:

```
7910 \defaddtocounter{\LWR@tablecolspectindex}{2}%
7911 }
```

72.12 Parsing ‘*’ columns

`\LWR@parsestarcolumn` Star columns should already have been expanded, so this should never be used.

```
7912 \newcommand*{\LWR@parsestarcolumn}{%
7913   \defaddtocounter{\LWR@tablecolspectindex}{2}%
7914 }
```

72.13 Parsing ‘D’ columns

From the `dcolumn` package.

`\LWR@parseDcolumn` {*thiscolumn*} The three parameters will be ignored.

```
7915 \newcommand*{\LWR@parseDcolumn}[1]{%
```

Converts to the given column type.

```
7916 \LWR@parsenormalcolumn{#1}%
```

Skips the following three parameters.

```
7917 \defaddtocounter{\LWR@tablecolspectindex}{3}%
7918 }
```

72.14 Expanding the star column specifications

Ctr `LWR@starcount` Internal count for duplicating star columns.

```
7919 \newcount\LWR@starcount
```

`\LWR@expcolspec` Temporary storage used to build the expanded column specifier.

```
7920 \newcommand*\LWR@expcolspec{}{}
```

Ctr `LWR@splitstarindex` Indexes into the column specifiers.

```
7921 \newcounter{LWR@splitstarindex}
```

Ctr `LWR@splitstarcopies` Number of copies.

```
7922 \newcounter{LWR@splitstarcopies}
```

`\LWR@splitstarcontents` Contents to duplicate.

```
7923 \newcommand*\LWR@splitstarcontents{}{}
```

`\expandcolspect` Expands `\LWR@origcolspect` for star columns.

```
7924 \newcommand*\expandcolspect{\%
```

Find the position of any star token.

```
7925 \StrPosition{\LWR@origcolspect}{*}[\LWR@tempone]%
```

Expand until no stars are found:

```
7926 \whileboolexpr{ test {\ifnumgreater{\LWR@tempone}{0}}}%
7927 {%
```

Begin with any characters to the left of the star.

```
7928 \setcounter{LWR@splitstarindex}{\LWR@tempone}%
7929 \addtocounter{LWR@splitstarindex}{-1}%
7930 \StrLeft{\LWR@origcolspect}{\value{LWR@splitstarindex}}[\LWR@expcolspec]%
```

Move past the star to remember its number of copies.

```
7931 \addtocounter{LWR@splitstarindex}{2}%
7932 \StrChar{\LWR@origcolspect}{\value{LWR@splitstarindex}}[\LWR@tempone]%
7933 \setcounter{LWR@splitstarcopies}{\expandafter\firsto\firstofone\LWR@tempone}%
```

Move past the number of copies and remember the contents.

```
7934 \addtocounter{LWR@splitstarindex}{1}%
7935 \StrChar{\LWR@origcolspect}{\value{LWR@splitstarindex}}[\LWR@splitstarcontents]%
```

Table 10: Tabular baseline

l	p	m	b	r
			bot	
		mid	bot	
1	par	mid	bot	r
	par	mid		
		par		

For each copy, append the contents.

```
7936      \ifnumgreater{\value{LWR@splitstarcopies}}{0}%
7937      {%
7938          \LWR@starcount=\value{LWR@splitstarcopies}%
7939          \loop
7940              \appto\LWR@expcolspec{%
```

(Remove the enclosing braces.)

```
7941          \expandafter\@firstofone\LWR@splitstarcontents%
7942      }%
7943          \advance \LWR@starcount -1
7944          \ifnum \LWR@starcount>0 \repeat
7945      }{}%
```

Remove any token to the left, and append the rightmost remaining tokens.

```
7946      \StrGobbleLeft{\LWR@origcolspec}{\value{LWR@splitstarindex}}[\colspecremainder]%
7947      \appto{\LWR@expcolspec}{\colspecremainder}%
```

Remember the final result.

```
7948      \edef\LWR@origcolspec{\LWR@expcolspec}%
```

See if more stars exist.

```
7949      \StrPosition{\LWR@origcolspec}{*}[\LWR@tempone]%
7950  }%
7951 }
```

72.15 Parsing the column specifications

⚠ tabular baselines

HTML CSS cannot exactly match the L^AT_EX concept of a baseline for a table row. Table 10 shows the L^AT_EX results for various vertical-alignment choices, with the baseline of the first column drawn across all the columns for comparison. See the p column specification in table 11 for details.

Table 11 describes how each kind of column is converted to HTML.

Table 11: Tabular HTML column conversions

-
- l, r, c:** Converted to table cells without paragraph tags.
Uses css vertical-align:middle so that top or bottom-aligned cells may go above or below this cell.
- p:** Converted to table cells with paragraph tags. Ref: Table 10, L^AT_EX places the top line of a parbox aligned with the rest of the text line, so css vertical-align:bottom is used to have the HTML result appear with the paragraph extending below the L, R, C cells at the middle, if possible. This may be confusing as a P cell may not top-align with an L,R,C cell in the HTML conversion, especially in the presence of a B cell, and two P cells side-by-side will be aligned at the bottom instead of the top. Some adjustment of the css may be desired, changing td.tdp, td.tdP, td.tdprule, and td.tdPrule to vertical-align: middle. Another possibility is to change L,R,C, and P to vertical-align: top and not worry about the alignment of B and M cells or trying to approximate L^AT_EX baselines.
- m:** With paragraph tags, css vertical-align:middle.
- b:** With paragraph tags, css vertical-align:top so that the bottom of the text is closest to the middle of the text line.
- P, M, B:** Horizontally-centered versions.
- S:** Converted to 'r'. Ignores optional argument. From the siunitx package.
- D:** Converted to 'c'. From the dcolumn package.
- @, !, >, <:** One each, in that order.
- |:** Vertical rule.
- Unknown:** Converted to 'l'.
- \newcolumn:** Currently treated as unknown.
-

```
\LWR@parsetablecols {⟨colspecs⟩}
```

Scans the column specification left to right.

Builds `\LWR@tablecolspec` with the final specification, one `LATEX` column per entry. The final number of `LATEX` columns in each row is stored in `\LWR@tabletotalLaTeXcols`, which is the number of `&` and `\`` in each line, but which does not include `@`, `!`, `<`, `>` specifications in the count.

```
7952 \newcommand*{\LWR@parsetablecols}[1]{%
7953   \LWR@traceinfo{\LWR@parsetablecols}{%
```

Remember the original supplied column spec:

```
7954 \renewcommand*{\LWR@origcolspec}{#1}{%
```

Remove spaces:

```
7955 \expandarg%
7956 \StrSubstitute{\LWR@origcolspec}{ }{}[\LWR@origcolspec]{%
```

Expand any star columns:

```
7957 \expandcolspec{%
```

The parsed column spec data array, `\LWR@tablecolspec`, will be overwritten with new values.

Total number of columns found so far. Also pre-initialize the first several columns of specs:

```
7958 \defcounter{\LWR@tabletotalLaTeXcols}{0}{%
7959 \defcounter{\LWR@tabletotalLaTeXcolsnext}{1}{%
7960 \LWR@setexpparray{\LWR@colatsspec}{leftedge}{}}{%
7961 \LWR@setexpparray{\LWR@colatsspec}{1}{}}{%
7962 \LWR@setexpparray{\LWR@colatsspec}{2}{}}{%
7963 \LWR@setexpparray{\LWR@colatsspec}{3}{}}{%
7964 \LWR@setexpparray{\LWR@colbangspec}{leftedge}{}}{%
7965 \LWR@setexpparray{\LWR@colbangspec}{1}{}}{%
7966 \LWR@setexpparray{\LWR@colbangspec}{2}{}}{%
7967 \LWR@setexpparray{\LWR@colbangspec}{3}{}}{%
7968 \LWR@setexpparray{\LWR@colbeforespec}{1}{}}{%
7969 \LWR@setexpparray{\LWR@colbeforespec}{2}{}}{%
7970 \LWR@setexpparray{\LWR@colbeforespec}{3}{}}{%
7971 \LWR@setexpparray{\LWR@colafterspec}{1}{}}{%
7972 \LWR@setexpparray{\LWR@colafterspec}{2}{}}{%
7973 \LWR@setexpparray{\LWR@colafterspec}{3}{}}{%
7974 \LWR@setexpparray{\LWR@colbarspec}{leftedge}{}}{%
7975 \LWR@setexpparray{\LWR@colbarspec}{1}{}}{%
7976 \LWR@setexpparray{\LWR@colbarspec}{2}{}}{%
7977 \LWR@setexpparray{\LWR@colbarspec}{3}{}}{%
```

Starting at the first column specification:

```
7978 \defcounter{LWR@tablecolspecindex}{1}%
```

Place the colspecs string length into `\LWR@strresult`, and remember the number of characters in the column specification:

```
7979 \expandarg%
7980 \StrLen{\LWR@origcolspec}[\LWR@strresult]%
7981 \fullexpandarg%
7982 \LWR@traceinfo{original column spec length: \LWR@strresult}%
7983 \defcounter{LWR@tablecolspecwidth}{\LWR@strresult}%
```

Haven't seen any optional arguments so far

```
7984 \boolfalse{LWR@opttablecol}%
```

Scan through the column specifications:

```
7985 \whileboolexpr{%
7986   not test{%
7987     \ifnumcomp{\value{LWR@tablecolspecindex}}{>}{%
7988       {\value{LWR@tablecolspecwidth}}%
7989     }%
7990   }%
7991 }%
```

Place the next single-character column type into `\LWR@strresult`:

```
7992 \expandarg%
7993 \StrChar{\LWR@origcolspec}{\arabic{LWR@tablecolspecindex}}[\LWR@strresult]%
7994 \LWR@traceinfo{position \arabic{LWR@tablecolspecindex}: \LWR@strresult}%
7995 \fullexpandarg%
```

Not yet found a valid column type:

```
7996 \boolfalse{LWR@validtablecol}%
```

Skip over any optional arguments, such as `siunitx S` column:

```
7997 \IfStrEq{\LWR@strresult}{[]}{\booltrue{LWR@opttablecol}}{}%
```

Throw away anything found inside the optional argument:

```
7998 \ifbool{LWR@opttablecol}{%
7999   {}% inside an optional argument
8000   {}% not an optional tabular argument
}
```

Not inside an optional argument, so consider the column type:

```
8001 \IfStrEq{\LWR@strresult}{l}{\LWR@parsenormalcolumn{l}}{}%
8002 \IfStrEq{\LWR@strresult}{c}{\LWR@parsenormalcolumn{c}}{}%
8003 \IfStrEq{\LWR@strresult}{r}{\LWR@parsenormalcolumn{r}}{}%
8004 \IfStrEq{\LWR@strresult}{L}{\LWR@parsenormalcolumn{l}}{}%
8005 \IfStrEq{\LWR@strresult}{C}{\LWR@parsenormalcolumn{c}}{}%
```

```

8006  \IfStrEq{\LWR@strresult}{R}{\LWR@parsenormalcolumn{r}}{}%
8007  \IfStrEq{\LWR@strresult}{J}{\LWR@parsenormalcolumn{l}}{}%
8008  \IfStrEq{\LWR@strresult}{S}{\LWR@parsenormalcolumn{c}}{}%
8009  \IfStrEq{\LWR@strresult}{s}{\LWR@parsenormalcolumn{c}}{}%
8010  \IfStrEq{\LWR@strresult}{\detokenize{@}}{\LWR@parseatcolumn}{}%
8011  \IfStrEq{\LWR@strresult}{!}{\LWR@parsebangcolumn}{}%
8012  \IfStrEq{\LWR@strresult}{>}{\LWR@parsebeforecolumn}{}%
8013  \IfStrEq{\LWR@strresult}{<}{\LWR@parseaftercolumn}{}%
8014  \IfStrEq{\LWR@strresult}{|}{\LWR@parsebarcolumn}{}%
8015  \IfStrEq{\LWR@strresult}{:}{\LWR@parsecoloncolumn}{}%
8016  \IfStrEq{\LWR@strresult}{;}{\LWR@parsesemicoloncolumn}{}%
8017  \IfStrEq{\LWR@strresult}{p}{\LWR@parsepcolumn{p}}{}%
8018  \IfStrEq{\LWR@strresult}{m}{\LWR@parsepcolumn{m}}{}%
8019  \IfStrEq{\LWR@strresult}{b}{\LWR@parsepcolumn{b}}{}%
8020  \IfStrEq{\LWR@strresult}{w}{\LWR@parsewcolumn}{}%
8021  \IfStrEq{\LWR@strresult}{W}{\LWR@parsewcolumn}{}%

```

A star column:

```
8022  \IfStrEq{\LWR@strresult}{*}{\LWR@parsestarcolumn}{}%
```

From the `dcolumn` package:

```
8023  \IfStrEq{\LWR@strresult}{D}{\LWR@parseDcolumn{c}}{}%
```

From the `tabularx` package. X column has no parameter, but will be given paragraph tags.

```
8024  \IfStrEq{\LWR@strresult}{X}{\LWR@parsenormalcolumn{X}}{}%
```

Many people define centered versions “P”, “M”, and “B”:

```
\newcolumntype{P}[1]{>{\centering\arraybackslash}p{#1}}
```

```

8025  \IfStrEq{\LWR@strresult}{P}{\LWR@parsepcolumn{P}}{}%
8026  \IfStrEq{\LWR@strresult}{M}{\LWR@parsepcolumn{M}}{}%
8027  \IfStrEq{\LWR@strresult}{B}{\LWR@parsepcolumn{B}}{}%

```

If this column was an invalid column type, convert it to an `l` column:

```

8028  \ifbool{LWR@validtablecol}{}{%
8029    \LWR@traceinfo{invalid column type: \LWR@strresult}%
8030    \LWR@parsenormalcolumn{l}%
8031  }%
8032  \% not an optional column argument

```

If read the closing bracket, no longer inside the optional argument:

```
8033 \IfStrEq{\LWR@strresult}{}{\boolfalse{\LWR@opttablecol}}{}%
```

Move to the next character:

```
8034 \defaddtocounter{\LWR@tablecolspecindex}{1}%
8035 }% whiledo
8036 }%
```

72.16 colortbl and xcolor tabular color support

These macros provide a minimal emulation of some `colortbl` macros which might appear between table cells. If `colortbl` is loaded, these macros will be replaced with functional versions.

For each of the `HTML` colors below, the text for the `HTML` color is set if requested, but the macro is empty if none has been set.

`\rownum` Reserve a counter register.

```
8037 \@ifundefined{rownum}{\newcount\rownum}{}%
```

`\@rowcolors` Emulated in case `xcolor` is not used.

```
8038 \newcommand*{\@rowcolors}{}%
```

`\@rowc@lors` Emulated in case `xcolor` is not used.

```
8039 \newcommand*{\@rowc@lors}{}%
```

`\LWR@xcolorrowHTMLcolor` Emulated `xcolor` row color.

```
8040 \newcommand*{\LWR@xcolorrowHTMLcolor}{}%
```

`\LWR@columnHTMLcolor` `HTML`style code for the column color.

```
8041 \def\LWR@columnHTMLcolor{}%
```

`\LWR@rowHTMLcolor` `HTML`style code for the row color.

```
8042 \def\LWR@rowHTMLcolor{}%
```

`\LWR@cellHTMLcolor` `HTML`style code for the cell color.

```
8043 \def\LWR@cellHTMLcolor{}%
```

\LWR@ruleHTMLcolor HTML style code for the rule color.

```
8044 \newcommand*{\LWR@ruleHTMLcolor}{}{}
```

\rowcolor [*model*] {*color*} [*left overhang*] [*right overhang*] Print version. The HTML version is in `lwarp-colortbl`. Used before starting a tabular data cell, thus `\LWR@getmynexttoken`.

```
8045 \newcommand*{\rowcolor}{\LWR@getmynexttoken}{}
```

\arrayrulecolor [*model*] {*color*}

\arrayrulecolornexttoken [*model*] {*color*}

Print versions for use outside and inside a tabular:

```
8046 \newcommand{\arrayrulecolor}[2][named]{}{}
```

```
8047 \newcommand{\arrayrulecolornexttoken}[2][named]{\LWR@getmynexttoken}{}
```

\doublerulesepcolor [*model*] {*color*}

\doublerulesepcolornexttoken [*model*] {*color*}

Print versions for use inside and outside a tabular:

```
8048 \newcommand{\doublerulesepcolor}[2][named]{}{}
```

```
8049 \newcommand{\doublerulesepcolornexttoken}[2][named]{\LWR@getmynexttoken}{}
```

72.17 Starting a new row

\LWR@maybenewtablerow If have not yet started a new table row, begin one now. Creates a new row tag, adding a class for `hline` or `tbrule` if necessary.

```
8050 \newcommand*{\LWR@maybenewtablerow}{}{%
8051   \ifbool{\LWR@startedrow}{%
8052     {}% started the row
8053     \% not started the row
8054   }%
```

Remember that now have started the row:

```
8055 \booltrue{\LWR@startedrow}{}
```

Create the row tag, with a class if necessary.

```
8056 \booltrue{\LWR@intabularmetadata}{%
8057   \ifboolexpr{%
8058     test{\ifnumcomp{\value{\LWR@hlines}}{>}{0}} \or%
8059     test{\ifnumcomp{\value{\LWR@hdashedlines}}{>}{0}}%
8060   }{}}
```

```

8061      {%
8062          \LWR@htmltag{tr class="hline" }%
8063          \LWR@orignewline%
8064      }%
8065      {% not doing hline
8066          \ifbool{\LWR@doingtbrule}{%
8067              {%
8068                  \ifdefvoid{\LWR@ruleHTMLcolor}{%
8069                      \LWR@htmltag{tr class="tbrule"}%
8070                  }{%
8071                      \LWR@htmltag{%
8072                          tr class="tbrule" % space
8073                          style="border-top: 1px solid % space
8074                          \LWR@origpound\LWR@ruleHTMLcolor "%
8075                      }%
8076                  }%
8077                  \LWR@orignewline%
8078              }%
8079              {\LWR@htmltag{tr}\LWR@orignewline}%
8080          }% end of not doing hline
8081      }% end of not started the row
8082 }

```

72.18 Printing vertical bar tags

\LWR@printbartag {*<index>*}

Adds to a tabular data cell an HTML class name for a left/right vertical bar.

```

8083 \newcommand*{\LWR@printbartag}[1]{%
8084     \LWR@traceinfo{\LWR@printbartag !#1!}%
8085     \ifboolexpr{bool{\LWR@tabularmutemods} or bool{\LWR@emptyatbang}}{%
8086         {}% muting or empty
8087         \% not muting
8088         \edef\tempone{\LWR@getexpparray{\LWR@colbarspec}{#1}}%
8089         \ifdefempty{\tempone}{}{\LWR@tempone}%
8090     }% not muting
8091     \LWR@traceinfo{\LWR@printbartag done}%
8092 }

```

72.19 Printing @ or ! tags

\LWR@printatbang {*at-or-bang>*} {*<index>*}

```
8093 \newcommand*{\LWR@printatbang}[2]{%
```

Fetch the column at or bang spec:

```

8094     \xdef\atbangspec{\LWR@getexpparray{\LWR@col#1spec}{#2}}%
8095     \LWR@traceinfo{atbang: #2 !\LWR@atbangspec!}%

```

Only generate if is not empty;

```

8096      \ifdefempty{\LWR@atbangspec}%
8097      {}%
8098      {%
8099          \LWR@htmltag{%
8100              td class="td#1%
8101                  \LWR@subaddcmidruletrim{}{}%
8102                  \LWR@printbartag{\#2}%
8103                  "%
8104                  \LWR@tdstartstyles%
8105                  \LWR@addcmidrulewidth%
8106                  \LWR@addcdashline%
8107                  \LWR@addtabularrulecolors%
8108                  \LWR@tdendstyles%
8109          }%

```

Create an empty cell if muting for the \bottomrule:

```

8110      \ifboolexpr{bool{\LWR@tabularmutemods} or bool{\LWR@emptyatbang}}%
8111      {}%
8112      {\LWR@atbangspec}%
8113 %
8114      \LWR@htmltag{/td}\LWR@orignewline%
8115      \global\booltrue{\LWR@tabularcelladded}%
8116  }% not empty
8117 }%

```

\LWR@addleftmostbartag

```

8118 \newcommand*{\LWR@addleftmostbartag}{%
8119     \ifnumcomp{\value{\LWR@tableLaTeXcolindex}}{=}{1}{%
8120         \LWR@printbartag{leftedge}%
8121     }%
8122 }

```

\LWR@tabularleftedge

```

8123 \newcommand*{\LWR@tabularleftedge}{%
8124     \ifnumcomp{\value{\LWR@tableLaTeXcolindex}}{=}{1}{%
8125         %
8126         \LWR@printatbang{at}{leftedge}%
8127         \LWR@printatbang{bang}{leftedge}%
8128     }% left edge
8129     {}% not left edge
8130 }

```

72.20 Data opening tag

\LWR@thiscolspec Temporary storage.

```

8131 \newcommand*{\LWR@thiscolspec}{}

```

\LWR@tabledatasinglecolumntag Print a table data opening tag with style for alignment and color.

```
8132 \newcommand*\LWR@tabledatasinglecolumntag{%
8133 {%
8134     \LWR@traceinfo{\LWR@tabledatasinglecolumntag}%
8135     \LWR@maybenewtablerow%
```

Don't start a new paragraph tag if have already started one:

```
8136     \ifbool{\LWR@intabularmetadata}{%
8137     {%
```

If have found the end of tabular command, do not create the next data cell:

```
8138     \ifbool{\LWR@exittingtabular}{}{%
8139     {%
8140         \LWR@tabularleftedge%
```

Print the @ and ! contents before first column:

```
8140         \LWR@tabularleftedge%
```

Fetch the current column's alignment character into \LWR@strresult:

```
8141         \xdef\LWR@strresult{%
8142             \LWR@getexparray{\LWR@tablecolspec}{\arabic{\LWR@tableLaTeXcolindex}}%
8143             }%
```

print the start of a new table data cell:

```
8144         \LWR@traceinfo{\LWR@tabledatasinglecolumntag: about to print td tag}%
8145             \LWR@htmlltag{%
8146                 td class="td%"}
```

append this column's spec:

```
8147         \LWR@strresult%
```

If this column has a cmidrule, add "rule" to the end of the HTML class tag. Also add vertical bar tags.

```
8148         \LWR@addcmidruletrim%
8149             \LWR@addleftmostbartag%
8150                 \LWR@printbartag{\arabic{\LWR@tableLaTeXcolindex}}%
8151                 "%
```

Add styles for rules, alignment:

```
8152         \LWR@tdstartstyles%
8153             \LWR@addcmidrulewidth%
8154                 \LWR@addcdashline%
```



```
8155         \xdef\LWR@thiscolspec{%
```

```

8156          \LWR@getexpparray{\LWR@tablecolspec}%
8157          {\arabic{\LWR@tableLaTeXcolindex}}%
8158      }%
8159      \LWR@addformatwpalignment{\LWR@thiscolspec}%

```

Add styles for cell and rule colors:

```

8160          \LWR@addtabulararrowcolor%
8161          \LWR@addtabularrulecolors%
8162          \LWR@tdendstyles%
8163      }% HTML td
8164      \LWR@traceinfo{\LWR@tabledatasinglecolumntag: done printing td tag}%

```

If this is a p, m, b, or X column, allow paragraphs:

```

8165          \ifboolexpr{%
8166              test{ \ifdefstring{\LWR@strresult}{p} } or
8167              test{ \ifdefstring{\LWR@strresult}{m} } or
8168              test{ \ifdefstring{\LWR@strresult}{b} } or
8169              test{ \ifdefstring{\LWR@strresult}{P} } or
8170              test{ \ifdefstring{\LWR@strresult}{M} } or
8171              test{ \ifdefstring{\LWR@strresult}{B} } or
8172              test{ \ifdefstring{\LWR@strresult}{X} }%
8173          }%
8174          {% allow pars
8175          \LWR@traceinfo{\LWR@tabledatasinglecolumntag: about to \LWR@startpars}%
8176          \booltrue{\LWR@tableparcell}%
8177          \LWR@startpars%
8178          \LWR@traceinfo{\LWR@tabledatasinglecolumntag: done with \LWR@startpars}%
8179          }% allow pars
8180          {}% no pars

```

Print the > contents unless muted for the \bottomrule:

```

8181          \ifboolexpr{bool{\LWR@tabularmutemods} or bool{\LWR@emptyatbang}}%
8182          {}%
8183          {}%
8184          \LWR@getexpparray{\LWR@colbeforespec}{\arabic{\LWR@tableLaTeXcolindex}}%
8185          }%
8186          \boolfalse{\LWR@intabularmetadata}%
8187          }% not exiting tabular
8188      }{}% in tabular metadata
8189      \LWR@traceinfo{\LWR@tabledatasinglecolumntag: done}%
8190 }%

```

72.21 Midrules

- `LWR@midrules` `LWR@midrules` is a data array (section 42) of columns each containing a non-zero width if a midrule should be created for this column.
- `LWR@trimlrules` `LWR@trimlrules` is a data array (section 42) of columns containing `l` if a midrule

should be left trimmed for each column.

`LWR@trimrrules` `LWR@trimrrules` is a data array (section 42) of columns containing `r` if a midrule should be right trimmed for each column.

`LWR@cdashlines` `LWR@cdashlines` is a data array (section 42) of columns each containing a `Y` if an `arydshln` package "cdashed line" should be created for this column.

`Len \LWR@heavyrulewidth` The default width of the rule.

```
8191 \newlength{\LWR@heavyrulewidth}
8192 \setlength{\LWR@heavyrulewidth}{.08em}
```

`Len \LWR@lightrulewidth` The default width of the rule.

```
8193 \newlength{\LWR@lightrulewidth}
8194 \setlength{\LWR@lightrulewidth}{.05em}
```

`Len \LWR@cmidrulewidth` The default width of the rule.

```
8195 \newlength{\LWR@cmidrulewidth}
8196 \setlength{\LWR@cmidrulewidth}{.03em}
```

`Len \LWR@thiscmidrulewidth` The width of the next rule, defaulting to `\LWR@cmidrulewidth`.

If not `\LWR@cmidrulewidth`, a style will be used to generate the custom width.

Assigned from the `LWR@midrules` array.

```
8197 \newlength{\LWR@thiscmidrulewidth}
8198 \setlength{\LWR@thiscmidrulewidth}{\LWR@cmidrulewidth}
```

`\LWR@clearmidrules` Start new midrules. Called at beginning of tabular and also at `\``.

Clears all `LWR@midrules` and `LWR@trimrules` markers for this line.

```
8199 \newcommand*{\LWR@clearmidrules}
8200 {%
8201   \defcounter{LWR@midrulecounter}{1}%
8202   \whileboolexpr{%
8203     not \test{%
8204       \ifnumcomp{\value{LWR@midrulecounter}}{>}{%
8205         \value{LWR@tabletotalLaTeXcols}}%
8206     }%
8207   }%
8208   {%
8209     \LWR@setexpparray{LWR@midrules}{\arabic{LWR@midrulecounter}}{0pt}%
8210     \setlength{\LWR@thiscmidrulewidth}{\LWR@cmidrulewidth}%
8211     \LWR@setexpparray{LWR@trimrlrules}{\arabic{LWR@midrulecounter}}{}%
8212     \LWR@setexpparray{LWR@trimrrules}{\arabic{LWR@midrulecounter}}{}%
8213     \LWR@setexpparray{LWR@cdashlines}{\arabic{LWR@midrulecounter}}{N}%
8214     \defaddtocounter{LWR@midrulecounter}{1}%
8215   }%
8216 }
```

```
\LWR@subcmidrule {⟨width⟩} {⟨trim⟩} {⟨leftcolumn⟩} {⟨rightcolumn⟩}
```

Marks LWR@midrules data array elements to be non-zero widths from left to right columns. Also marks trimming for the L and/or R columns.

LWR@doingcmidrule is set to force an empty row at the end of the tabular to create the rule.

```
8217 \newcommand*{\LWR@subcmidrule}[4]{%
8218   \defcounter{LWR@midrulecounter}{#3}%
8219   \whileboolexpr{%
8220     not test {%
8221       \ifnumcomp{\value{LWR@midrulecounter}}{>}{#4}%
8222     }%
8223   }%
8224   {%
8225     \LWR@setexpparray{LWR@midrules}{\arabic{LWR@midrulecounter}}{#1}%
8226     \defaddtocounter{LWR@midrulecounter}{1}%
8227   }% whiledo
8228   \IfSubStr{#2}{l}{\LWR@setexpparray{LWR@trimlrules}{#3}{l}}{}%
8229   \IfSubStr{#2}{r}{\LWR@setexpparray{LWR@trimrrules}{#4}{r}}{}%
8230   \booltrue{LWR@doingcmidrule}%
8231 }
```

```
\LWR@docmidrule [⟨width⟩] (⟨trim⟩) {⟨leftcolumn-rightcolumn⟩}
```

Marks LWR@midrules array elements to be a non-zero width from left to right columns. Also marks trimming for the L and/or R columns.

```
8232 \NewDocumentCommand{\LWR@docmidrule}{%
8233   O{\LWR@cmidrulewidth} D(){} >{\SplitArgument{1}{-}m}%
8234   {\LWR@subcmidrule{#1}{#2}#3}}
```

```
\LWR@subcdashline {⟨leftcolumn⟩} {⟨rightcolumn⟩}
```

Marks LWR@cdashlines data array elements to be Y from left to right columns.

LWR@doingcmidrule is set to force an empty row at the end of the tabular to create the rule.

```
8235 \newcommand*{\LWR@subcdashline}[2]{%
8236   \defcounter{LWR@midrulecounter}{#1}%
8237   \whileboolexpr{%
8238     not test {%
8239       \ifnumcomp{\value{LWR@midrulecounter}}{>}{#2}%
8240     }%
8241   }%
8242   {%
8243     \LWR@setexpparray{LWR@cdashlines}{\arabic{LWR@midrulecounter}}{Y}%
8244     \defaddtocounter{LWR@midrulecounter}{1}%
8245   }% whiledo
8246   \booltrue{LWR@doingcmidrule}%
8247 }
```

\LWR@docdashline {⟨leftcolumn-rightcolumn⟩}

Marks LWR@cdashlines data array elements to be Y from left to right columns.

```

8248 \NewDocumentCommand{\LWR@docdashline}{%
8249   >{\SplitArgument{1}{-}m}%
8250   {%
8251     \LWR@subcdashline#1%
8252   }

```

Used to compute margins, tabular trims, column offsets:

```

8253 \newlength{\LWR@templengthone}%
8254 \newlength{\LWR@templengthtwo}%
8255 \newlength{\LWR@templengththree}%
8256 \newcounter{\LWR@tempcountone}

```

\LWR@tdstartstyles Begins possibly adding a table data cell style.

```
8257 \newcommand*{\LWR@tdstartstyles}{\boolfalse{\LWR@tdhavecellstyle}}
```

\LWR@tdaddstyle Starts adding a table data cell style.

```

8258 \newcommand*{\LWR@tdaddstyle}{%
8259   \ifbool{\LWR@tdhavecellstyle}{%
8260     {}%
8261     { style=}%
8262   }{\booltrue{\LWR@tdhavecellstyle}}%
8263 }

```

\LWR@tdendstyles Finishes possibly adding a table data cell style. Prints the closing quote.

```

8264 \newcommand*{\LWR@tdendstyles}{%
8265   \ifbool{\LWR@tdhavecellstyle}{%
8266     {}%
8267     "%%
8268   }{\boolfalse{\LWR@tdhavecellstyle}}%
8269 }
8270 }

```

\LWR@subaddcmidruletrim {⟨lefttrim⟩} {⟨righttrim⟩} Adds a \cmidrule with optional trim.

```

8271 \newcommand*{\LWR@subaddcmidruletrim}[2]{%
8272   \setlength{\LWR@templengthone}{%
8273     \LWR@getexpparray{\LWR@midrules}{\arabic{\LWR@tableLaTeXcolindex}}%
8274   }%
8275   \ifdimcomp{\LWR@templengthone}{>}{0pt}{%
8276     {}

```

Print the class with left and right trim letters appended:

```
8277 \LWR@origtilde tdrule#1#2%
```

Remember the width of the rule:

```
8278      \setlength{\LWR@thiscmidrulewidth}{\LWR@templengthone}%
8279      }%
8280      {%
8281      \setlength{\LWR@thiscmidrulewidth}{0pt}%
8282      }%
8283 }
```

\LWR@addcmidruletrim Adds left or right trim to a \cmidrule.

```
8284 \newcommand*{\LWR@addcmidruletrim}{%
8285   \LWR@subaddcmidruletrim%
8286   {\LWR@getexpparray{\LWR@trimlrules}{\arabic{\LWR@tableLaTeXcolindex}}}%
8287   {\LWR@getexpparray{\LWR@trimrrules}{\arabic{\LWR@tableLaTeXcolindex}}}%
8288 }
```

\LWR@addrulewidth {\<thiswidth>} {\<defaultwidth>}

If not default width, add a custom style with width and color depending on thiswidth.

Must be placed between \LWR@tdstartstyles and \LWR@tdendstyles.

```
8289 \newcommand{\LWR@addrulewidth}[2]{%
```

Only add a custom width if thiswidth is different than the defaultwidth, or if a color is being used:

```
8290 \ifboolexpr{%
8291   test{\ifdimcomp{#1}{=}{0pt}} or
8292   (
8293     ( test{\ifdimcomp{#1}{=}{#2}} and not bool{FormatWP} )
8294     and ( test {\ifdefvoid{\LWR@ruleHTMLcolor}} )
8295   )
8296 }%
8297 { }% default width and color
8298 { }% custom width and/or color
```

Ensure that the width is wide enough to display in the browser:

```
8299 \LWR@forceminwidth{#1}%
```

Begin adding another style:

```
8300 \LWR@tdaddstyle%
```

The style itself:

```
8301 border-top:\LWR@printlength{\LWR@atleastonept} solid % space
```

If default gray, the darkness of the color depends on the thickness of the rule:

```

8302      \ifdefvoid{\LWR@ruleHTMLcolor}{%
8303          \ifdimcomp{#1}{<}{\LWR@lightrulewidth}{%
8304              {\LWR@origpound{}A0A0A0}{%
8305                  \% lightrule or heaver
8306                      \ifdimcomp{#1}{<}{\LWR@heavyrulewidth}{%
8307                          {\LWR@origpound{}808080}{%
8308                              {black}}{%
8309                                  \% lightrule or heavier
8310                      }{%
8311                          \LWR@origpound{\LWR@ruleHTMLcolor}{%
8312                          }{%
8313                      \% custom width and/or color
8314 }{%

```

\LWR@addcmidrulewidth Adds a style for the rule width.

Must be placed between \LWR@tdstartstyles and \LWR@tdendstyles.

```

8315 \newcommand{\LWR@addcmidrulewidth}{%
8316     \LWR@addrulewidth{\LWR@thiscmidrulewidth}{\LWR@cmidrulewidth}{%
8317 }

```

\LWR@addcdashline Must be placed between \LWR@tdstartstyles and \LWR@tdendstyles.

```

8318 \newcommand{\LWR@addcdashline}{%
8319     \edef\LWR@tempone{%
8320         \LWR@getexparray{\LWR@cdashlines}{\arabic{\LWR@tableLaTeXcolindex}}{%
8321     }{%
8322         \ifdefstring{\LWR@tempone}{Y}{%
8323             \LWR@tdaddstyle{%
8324                 border-top: 1pt dashed %
8325                 \ifdefvoid{\LWR@ruleHTMLcolor}{%
8326                     {black}}{%
8327                         \LWR@origpound{\LWR@ruleHTMLcolor}{%
8328                         }{%
8329                     }{%

```

\LWR@WPcell {\text-align} {\vertical-align}

```

8330 \newcommand*{\LWR@WPcell}[2]{%
8331     \LWR@tdaddstyle{%
8332         \LWR@print@mbox{text-align:#1}; \LWR@print@mbox{vertical-align:#2}{%
8333 }

```

\LWR@addformatwpalignment If FormatWP, adds a style for the alignment.

Must be placed between \LWR@tdstartstyles and \LWR@tdendstyles.

```

8334 \newcommand*{\LWR@addformatwpalignment}[1]{%
8335     \ifbool{FormatWP}{%
8336         \IfSubStr{#1}{l}{\LWR@WPcell{left}{middle}}{%
8337             \IfSubStr{#1}{c}{\LWR@WPcell{center}{middle}}{%

```

```

8338      \IfSubStr{#1}{r}{\LWR@WPcell{right}{middle}}{}%
8339      \IfSubStr{#1}{p}{\LWR@WPcell{left}{bottom}}{}%
8340      \IfSubStr{#1}{m}{\LWR@WPcell{left}{middle}}{}%
8341      \IfSubStr{#1}{b}{\LWR@WPcell{left}{top}}{}%
8342      \IfSubStr{#1}{P}{\LWR@WPcell{center}{bottom}}{}%
8343      \IfSubStr{#1}{M}{\LWR@WPcell{center}{middle}}{}%
8344      \IfSubStr{#1}{B}{\LWR@WPcell{center}{top}}{}%
8345    }{}%
8346 }

```

72.22 Cell colors

\LWR@addtabulararrowcolor Adds a cell's row color style, if needed.

No color is added for the final row of empty cells which finishes each tabular.

```

8347 \newcommand*{\LWR@addtabulararrowcolor}{%
8348   \ifbool{\LWR@tabularmutemods}{}{%
8349     \ifdefvoid{\LWR@rowHTMLcolor}{%
8350       \ifdefvoid{\LWR@xcolorrowHTMLcolor}{%
8351         \% xcolor row color
8352         \LWR@tdaddstyle%
8353         background:\LWR@origpound\LWR@xcolorrowHTMLcolor%
8354       }%
8355     }%
8356     \% explicit row color
8357     \LWR@tdaddstyle%
8358     background:\LWR@origpound\LWR@rowHTMLcolor%
8359   }%
8360 }%
8361 }

```

\LWR@addtabularhrulecolor Adds a cell's horizontal rule color style, if needed.

```
8362 \newcommand*{\LWR@addtabularhrulecolor}{%
```

If either form of horizontal rule is requested:

```

8363   \ifboolexpr{%
8364     test{\ifnumcomp{\value{\LWR@hlines}}{>}{0}} or%
8365     test{\ifnumcomp{\value{\LWR@hdashedlines}}{>}{0}} or%
8366     bool{\LWR@doingtbrule}%
8367   }{%

```

If there is a no custom color:

```

8368     \ifdefvoid{\LWR@ruleHTMLcolor}{%
8369     }%
8370     \ifnumcomp{\value{\LWR@hlines}}{>}{1}{%
8371     \%
8372     \LWR@tdaddstyle%
8373     border-top: 4px double%

```

```

8374      }{%
8375      \ifnumcomp{\value{LWR@hdashedlines}}{>}{1}%
8376      {%
8377          \LWR@tdaddstyle%
8378          border-top: 2px dashed%
8379      }{%
8380      \ifnumcomp{\value{LWR@hdashedlines}}{=}{1}%
8381      {%
8382          \LWR@tdaddstyle%
8383          border-top: 1px dashed%
8384      }{}}%

```

If no color and not doubled or dashed, then add nothing, since a simpler rule is the default.

```
8385      }%
```

If there is a custom color:

```

8386      {%
8387      \ifnumcomp{\value{LWR@hlines}}{>}{1}%
8388      {%
8389          \LWR@tdaddstyle%
8390          border-top: 4px double \LWR@origpound\LWR@ruleHTMLcolor%
8391      }{%
8392      \ifnumcomp{\value{LWR@hdashedlines}}{>}{1}%
8393      {%
8394          \LWR@tdaddstyle%
8395          border-top: 2px dashed \LWR@origpound\LWR@ruleHTMLcolor%
8396      }{%
8397      \ifnumcomp{\value{LWR@hdashedlines}}{=}{1}%
8398      {%
8399          \LWR@tdaddstyle%
8400          border-top: 1px dashed \LWR@origpound\LWR@ruleHTMLcolor%
8401      }{%
8402          \LWR@tdaddstyle%
8403          border-top: 1px solid \LWR@origpound\LWR@ruleHTMLcolor%
8404      }{}}%
8405      }%
8406  }{}}%
8407 }

```

\LWR@addtabularrulecolors Adds a cell's rule color styles, if needed.

No color is added for the final row of empty cells which finishes each tabular.

```
8408 \newcommand*{\LWR@addtabularrulecolors}{%
```

Custom horizontal rule color:

```
8409      \LWR@addtabularhrulecolor%
```

No vertical rules if finishing the tabular with a row of empty cells:

```
8410 \ifbool{LWR@tabularmutemods}{}{%
```

If at the leftmost cell, possibly add a leftmost vertical rule:

```
8411 \ifnumequal{\value{LWR@tableLaTeXcolindex}}{1}{%
```

Fetch the left edge's vertical bar specification:

```
8412 \edef\tempone{\LWR@getexpparray{\LWR@colbarspec}{leftedge}}%
```

Add a custom style if a vertical bar was requested:

```
8413 \ifdefstring{\tempone}{tvertbarl}{%
8414     \LWR@tdaddstyle%
8415     border-left: 1px solid % space
8416     \LWR@verruleHTMLcolor%
8417 }{%
8418 \ifdefstring{\tempone}{tvertbarldouble}{%
8419     \LWR@tdaddstyle%
8420     border-left: 4px double % space
8421     \LWR@verruleHTMLcolor%
8422 }{%
8423 \ifdefstring{\tempone}{tvertbarldash}{%
8424     \LWR@tdaddstyle%
8425     border-left: 1px dashed % space
8426     \LWR@verruleHTMLcolor%
8427 }{%
8428 \ifdefstring{\tempone}{tvertbarldoubledash}{%
8429     \LWR@tdaddstyle%
8430     border-left: 2px dashed % space
8431     \LWR@verruleHTMLcolor%
8432 }{%
8433 }}
```

Possibly add a right vertical rule for this cell:

```
8434 \edef\tempone{%
8435     \LWR@getexpparray{\LWR@colbarspec}{\arabic{LWR@tableLaTeXcolindex}}%
8436 }%
8437 \ifdefstring{\tempone}{tvertbarr}{%
```

Add a custom style if a vertical bar was requested:

```
8438 \LWR@tdaddstyle%
8439 border-right: 1px solid \LWR@verruleHTMLcolor%
8440 }{%
8441 \ifdefstring{\tempone}{tvertbarrdouble}{%
8442     \LWR@tdaddstyle%
8443     border-right: 4px double \LWR@verruleHTMLcolor%
8444 }{%
8445 \ifdefstring{\tempone}{tvertbarrdash}{%
8446     \LWR@tdaddstyle%
8447     border-right: 1px dashed \LWR@verruleHTMLcolor%
8448 }}
```

```

8449      \ifdefstring{\LWR@tempone}{tvertbarrdoubledash}{%
8450          \LWR@tdaddstyle%
8451          border-right: 2px dashed \LWR@vertruleHTMLcolor%
8452      }{%
8453  }%
8454 }

\LWR@subaddtabularcellcolor {<HTML color>}

8455 \newcommand*{\LWR@subaddtabularcellcolor}[1]{%
8456     \LWR@htmntag{div class="cellcolor" style="%"
8457         background:\LWR@origpound{}{}#1 %
8458     " }%
8459     \defaddtocounter{\LWR@cellcolordepth}{1}%
8460 }

```

\LWR@addtabularcellcolor Adds a cell color style, if needed.

```

8461 \newcommand*{\LWR@addtabularcellcolor}{%
8462     \ifdefvoid{\LWR@cellHTMLcolor}%
8463     {%
8464         \ifdefvoid{\LWR@rowHTMLcolor}%
8465         {%
8466             \ifdefvoid{\LWR@xcolorrowHTMLcolor}%
8467             {%
8468                 \ifdefvoid{\LWR@columnHTMLcolor}%
8469                 {}%
8470                 {\LWR@subaddtabularcellcolor{\LWR@columnHTMLcolor}}%
8471             }%
8472             {\LWR@subaddtabularcellcolor{\LWR@xcolorrowHTMLcolor}}%
8473         }%
8474         {\LWR@subaddtabularcellcolor{\LWR@rowHTMLcolor}}%
8475     }%
8476     {\LWR@subaddtabularcellcolor{\LWR@cellHTMLcolor}}%
8477 }

```

72.23 Multicolumns

72.23.1 Parsing multicolumns

\LWR@printmccoltype {<colspec>} Print any valid column type found. Does not print @, !, >, or < columns or their associated tokens.

This is printed as part of the table data tag's class.

```

8478 \newcommand*{\LWR@printmccoltype}[1]{%
8479     \LWR@traceinfo{lwr@printmccoltype -#1-}%

```

Get one token of the column spec:

```

8480     \StrChar{#1}{\arabic{\LWR@tablemulticolspos}}[\LWR@strresult]%

```

Add to the `HTML` tag depending on which column type is found:

```

8481      \IfStrEq{\LWR@strresult}{l}{\%}
8482      \IfStrEq{\LWR@strresult}{c}{\%}
8483      \IfStrEq{\LWR@strresult}{r}{\%}
8484      \IfStrEq{\LWR@strresult}{p}{\%}
8485      \IfStrEq{\LWR@strresult}{m}{\%}
8486      \IfStrEq{\LWR@strresult}{b}{\%}
8487      \IfStrEq{\LWR@strresult}{P}{\%}
8488      \IfStrEq{\LWR@strresult}{M}{\%}
8489      \IfStrEq{\LWR@strresult}{B}{\%}

8490      \IfStrEq{\LWR@strresult}{w}{\%}
8491      \IfStrEq{\LWR@strresult}{W}{\%}

8492      \IfStrEq{\LWR@strresult}{S}{\%}
8493      \IfStrEq{\LWR@strresult}{s}{\%}

8494      \IfStrEq{\LWR@strresult}{X}{\%}

8495      \IfStrEq{\LWR@strresult}{|}{\%
8496      {%
8497          \ifbool{\LWR@mcolvertbaronleft}{%
8498              {\defaddtocounter{\LWR@mcolvertbarsl}{1}}% left edge
8499              {\defaddtocounter{\LWR@mcolvertbarsr}{1}}% not left edge
8500          }%
8501          {%
8502              \IfStrEq{\LWR@strresult}{:}{\%
8503              {%
8504                  \ifbool{\LWR@mcolvertbaronleft}{%
8505                      {\defaddtocounter{\LWR@mcolvertbarsldash}{1}}% left edge
8506                      {\defaddtocounter{\LWR@mcolvertbarsrdash}{1}}% not left edge
8507                  }%
8508                  {%
8509                      \IfStrEq{\LWR@strresult}{;}{\%
8510                      {%
8511                          \ifbool{\LWR@mcolvertbaronleft}{%
8512                              {\defaddtocounter{\LWR@mcolvertbarsldash}{1}}% left edge
8513                              {\defaddtocounter{\LWR@mcolvertbarsrdash}{1}}% not left edge
8514                          }%
8515                          {\boolfalse{\LWR@mcolvertbaronleft}}%
8516                      }%
8517                  }%
8518                  \LWR@traceinfo{lwr@printmccoltype done}%
8519 }

```

`\LWR@multicolpartext` {*num parameters*} Print the data with paragraph tags, advance to bypass the given number of parameters.

```

8520 \newcommand*{\LWR@multicolpartext}[1]{%
8521     \LWR@startpars%
8522     \LWR@multicoltext%
8523     \defaddtocounter{\LWR@tablemulticolspos}{#1}%

```

```
8524     \LWR@stoppars%
8525 }
```

\LWR@multicolother {*colspec*} For @, !, >, <, print the next token without paragraph tags:

```
8526 \newcommand*{\LWR@multicolother}[1]{%
8527     \defaddtocounter{\LWR@tablemulticolspos}{1}%
8528     \StrChar{#1}{\arabic{\LWR@tablemulticolspos}}[\LWR@strresult]%
8529     \LWR@strresult%
```

A valid column data type was found:

```
8530     \booltrue{\LWR@validtablecol}%
8531 }
```

\LWR@multicolskip Nothing to print for this column type.

```
8532 \newcommand*{\LWR@multicolskip}{%
```

A valid column data type was found:

```
8533     \booltrue{\LWR@validtablecol}%
8534 }
```

\LWR@printmccoldata {*colspec*} Print the data for any valid column type found.

```
8535 \newcommand*{\LWR@printmccoldata}[1]{%
8536     \LWR@traceinfo{lwr@printmccoldata -#1}%

```

Not yet found a valid column type:

```
8537     \boolfalse{\LWR@validtablecol}%

```

Get one token of the column spec, into a local copy in case nested.

```
8538     \StrChar{#1}{\arabic{\LWR@tablemulticolspos}}[\LWR@strresult]%
8539     \edef\LWR@printmccoldatatoken{\LWR@strresult}%
```

Print the text depending on which column type is found. Also handles @, >, < as it comes to them.

```
8540     \IfStrEq{\LWR@printmccoldatatoken}{l}{\LWR@multicoltext}{%
8541     \IfStrEq{\LWR@printmccoldatatoken}{c}{\LWR@multicoltext}{%
8542     \IfStrEq{\LWR@printmccoldatatoken}{r}{\LWR@multicoltext}{%
8543     \IfStrEq{\LWR@printmccoldatatoken}{D}{%
8544         \defaddtocounter{\LWR@tablemulticolspos}{3}%
8545         \LWR@multicoltext%
8546     }{%
8547     \IfStrEq{\LWR@printmccoldatatoken}{p}{\LWR@multicolpartext{2}}{%
8548     \IfStrEq{\LWR@printmccoldatatoken}{m}{\LWR@multicolpartext{2}}{%

```

```

8549  \IfStrEq{\LWR@printmccoldatatoken}{b}{\LWR@multicolpartext{2}}{}%
8550  \IfStrEq{\LWR@printmccoldatatoken}{P}{\LWR@multicolpartext{2}}{}%
8551  \IfStrEq{\LWR@printmccoldatatoken}{M}{\LWR@multicolpartext{2}}{}%
8552  \IfStrEq{\LWR@printmccoldatatoken}{B}{\LWR@multicolpartext{2}}{}%

8553  \IfStrEq{\LWR@printmccoldatatoken}{w}{\LWR@multicolpartext{3}}{}%
8554  \IfStrEq{\LWR@printmccoldatatoken}{W}{\LWR@multicolpartext{3}}{}%

8555  \IfStrEq{\LWR@printmccoldatatoken}{S}{\LWR@multicoltext}{}%
8556  \IfStrEq{\LWR@printmccoldatatoken}{s}{\LWR@multicoltext}{}%

8557  \IfStrEq{\LWR@printmccoldatatoken}{X}{\LWR@multicolpartext{1}}{}%
8558  \IfStrEq{\LWR@printmccoldatatoken}{|}{\LWR@multicolskip}{}%
8559  \IfStrEq{\LWR@printmccoldatatoken}{:}{\LWR@multicolskip}{}%
8560  \IfStrEq{\LWR@printmccoldatatoken}{;}{\LWR@multicolskip}{}%
8561      \defaddtocounter{LWR@tablemulticolspos}{1} skip parameter
8562  }{}%
8563  \IfStrEq{\LWR@printmccoldatatoken}{\detokenize{@}}{\LWR@multicolother{#1}}{}%
8564  \IfStrEq{\LWR@printmccoldatatoken}{\detokenize{!}}{\LWR@multicolother{#1}}{}%
8565  \IfStrEq{\LWR@printmccoldatatoken}{\detokenize{>}}{\LWR@multicolother{#1}}{}%
8566  \IfStrEq{\LWR@printmccoldatatoken}{\detokenize{<}}{\LWR@multicolother{#1}}{}%
8567  \IfStrEq{\LWR@printmccoldatatoken}{\detokenize{<>}}{\LWR@multicolother{#1}}{}%

```

If an invalid column type:

```
8568  \ifbool{LWR@validtablecol}{}{\LWR@multicoltext}{}%
```

Tracing:

```
8569  \LWR@traceinfo{lwr@printmccoldata done}%
8570 }
```

\parsemulticolumnalignment {⟨1: colspec⟩} {⟨2: printresults⟩}

Scan the multicolumn specification and execute the printfunction for each entry.

Note that the spec for a p{spec} column, or @, >, <, is a token list which will NOT match l, c, r, or p.

```

8571 \newcommand*{\LWR@parsemulticolumnalignment}[2]{%
8572     \defcounter{LWR@tablemulticolspos}{1}%
8573     \StrLen{#1}[\LWR@strresult]%
8574     \defcounter{LWR@tablemulticolswidth}{\LWR@strresult}%

```

Scan across the tokens in the column spec:

```

8575  \whileboolexpr{%
8576      not test {}%
8577      \ifnumcomp{\value{LWR@tablemulticolspos}}{>}{%
8578          {\value{LWR@tablemulticolswidth}}%
8579      }%
8580  }%
8581 }%

```

Execute the assigned print function for each token in the column spec:

```
8582      #2{\#1}%
```

Move to the next token in the column spec:

```
8583      \defaddtocounter{LWR@tablemulticolspos}{1}%
8584      }%
8585 }
```

72.23.2 Multicolumn factored code

\LWR@addmulticolvertrulecolor

```
8586 \newcommand*{\LWR@addmulticolvertrulecolor}{%
```

No vertical rules if finishing the tabular with a row of empty cells:

```
8587 \ifbool{\LWR@tabularmutemods}{ }{%
```

Left side:

```
8588 \ifnumcomp{\value{LWR@mcolvertbarsl}}{=}{1}{%
8589     \LWR@tdaddstyle%
8590     border-left: 1px solid \LWR@verruleHTMLcolor%
8591 }{ }%
8592 \ifnumcomp{\value{LWR@mcolvertbarsl}}{>}{1}{%
8593     \LWR@tdaddstyle%
8594     border-left: 4px double \LWR@verruleHTMLcolor%
8595 }{ }%
8596 \ifnumcomp{\value{LWR@mcolvertbarsldash}}{=}{1}{%
8597     \LWR@tdaddstyle%
8598     border-left: 1px dashed \LWR@verruleHTMLcolor%
8599 }{ }%
8600 \ifnumcomp{\value{LWR@mcolvertbarsldash}}{>}{1}{%
8601     \LWR@tdaddstyle%
8602     border-left: 2px dashed \LWR@verruleHTMLcolor%
8603 }{ }%
```

Right side:

```
8604 \ifnumcomp{\value{LWR@mcolvertbarsr}}{=}{1}{%
8605     \LWR@tdaddstyle%
8606     border-right: 1px solid \LWR@verruleHTMLcolor%
8607 }{ }%
8608 \ifnumcomp{\value{LWR@mcolvertbarsr}}{>}{1}{%
8609     \LWR@tdaddstyle%
8610     border-right: 4px double \LWR@verruleHTMLcolor%
8611 }{ }%
8612 \ifnumcomp{\value{LWR@mcolvertbarsrdash}}{=}{1}{%
8613     \LWR@tdaddstyle%
8614     border-right: 1px dashed \LWR@verruleHTMLcolor%
8615 }{ }%
```

```

8616      \ifnumcomp{\value{LWR@mcovertbarsrdash}}{>}{1}{%
8617          \LWR@tdaddstyle%
8618          border-right: 2px dashed \LWR@vertruleHTMLcolor%
8619      }{}%
8620  }%
8621 }

8622 \newcommand{\LWR@multicoltext}{}%
```

To find multicolumn right trim:

```
8623 \newcounter{LWR@lastmulticolumn}
```

```
\LWR@domulticolumn  {[1: vpos]} {[2: #rows]} {[3: numLaTeXcols]} {[4: numHTMLcols]} {[5: colspec]} {[6: text]}

8624 \NewDocumentCommand{\LWR@domulticolumn}{o o m m m +m}{%
8625     \LWR@traceinfo{LWR@domulticolumn -#1- -#2- -#4- -#5-}%
}
```

Remember the text to be inserted, and remember that a valid column type was found:

```

8626  \renewcommand{\LWR@multicoltext}{%
8627      #6%
8628      \booltrue{LWR@validtablecol}%
8629  }%
```

Compute the rightmost column to be included. This is used to create the right trim.

```

8630  \defcounter{LWR@lastmulticolumn}{\value{LWR@tableLaTeXcolindex}}%
8631  \defaddtocounter{LWR@lastmulticolumn}{#3}%
8632  \defaddtocounter{LWR@lastmulticolumn}{-1}%
```

Row processing:

```
8633  \LWR@maybenewtablerow%
```

Begin the opening table data tag:

```

8634  \LWR@htmlltag{%
8635      td colspan="#4" %

8636      \IfValueT{#2}{ % rows?
8637          rowspan="#2" %

8638          \IfValueT{#1}{% vpos?
8639              \ifstreq{\#1}{b}%
8640                  {style="\LWR@print@mbox{vertical-align:bottom}" }{}%
8641              \ifstreq{\#1}{t}%
8642                  {style="\LWR@print@mbox{vertical-align:top}" }{}%
8643          }% vpos?
8644          }% rows?
```

```
8645      class="td%
```

Print the column type and vertical bars:

```
8646      \defcounter{LWR@mcolvertbarsl}{0}%
8647      \defcounter{LWR@mcolvertbarsr}{0}%
8648      \defcounter{LWR@mcolvertbarsldash}{0}%
8649      \defcounter{LWR@mcolvertbarsrdash}{0}%
8650      \booltrue{LWR@mcolvertbaronleft}%
8651      \LWR@parsemulticolumnalignment{\#5}{\LWR@printmccoltype}%
```

If this column has a cmidrule, add “rule” to the end of the HTML class tag.

If this position had a “Y” then add “rule” for a horizontal rule:

```
8652      \LWR@subaddcmidruletrim%
8653      {%
8654          \LWR@getexpparray{\LWR@trimlrules}%
8655          {\arabic{LWR@tableLaTeXcolindex}}%
8656      }%
8657      {%
8658          \LWR@getexpparray{\LWR@trimrrules}%
8659          {\arabic{LWR@lastmulticolumn}}%
8660      }%
```

Also add vertical bar class.

```
8661      \ifnumcomp{\value{LWR@mcolvertbarsl}}{=}{1}{ tvertbarl}{}
8662      \ifnumcomp{\value{LWR@mcolvertbarsl}}{>}{1}{ tvertbarldouble}{}
8663      \ifnumcomp{\value{LWR@mcolvertbarsr}}{=}{1}{ tvertbarr}{}
8664      \ifnumcomp{\value{LWR@mcolvertbarsr}}{>}{1}{ tvertbarrdouble}{}
8665      \ifnumcomp{\value{LWR@mcolvertbarsldash}}{=}{1}{ tvertbarldash}{}
8666      \ifnumcomp{\value{LWR@mcolvertbarsldash}}{>}{1}{%
8667          tvertbardoubledash}{}%
8668      \ifnumcomp{\value{LWR@mcolvertbarsrdash}}{=}{1}{ tvertbarrdash}{}
8669      \ifnumcomp{\value{LWR@mcolvertbarsrdash}}{>}{1}{%
8670          tvertbarrdoubledash}{}%
```

Close the class tag's opening quote:

```
8671      "%
8672      \LWR@tdstartstyles%
8673      \LWR@addtabulararrowcolor%
8674      \LWR@addcmidrulewidth%
8675      \LWR@addcdashline%
8676      \LWR@addtabularhrulecolor%
8677      \LWR@addmulticolvertrulecolor%
8678      \LWR@addformatwpalignment{\#5}%
8679      \LWR@tdendstyles%
8680  }% end of the opening table data tag
```

```

8681      \boolfalse{LWR@intabularmetadata}%
8682      \LWR@parsemulticolumnalignment{\#5}{\LWR@printmccoldata}%
8683 }

```

72.23.3 Multicolumn

```

\LWR@htmlmulticolumn {\langle numcols \rangle} {\langle alignment \rangle} {\langle text \rangle}

8684 \NewDocumentCommand{\LWR@htmlmulticolumn}{m m +m}%
8685 {%

```

Figure out how many extra HTML columns to add for @ and ! columns:

```
8686 \LWR@tabularhtmlcolumns{\arabic{LWR@tableLaTeXcolindex}}{\#1}%
```

Create the multicolumn tag:

```
8687 \LWR@domulticolumn{\#1}{\arabic{LWR@tabhtmlcoltotal}}{\#2}{\#3}%

```

Move to the next L^AT_EX column:

```

8688 \defaddtocounter{LWR@tableLaTeXcolindex}{\#1}%
8689 \defaddtocounter{LWR@tableLaTeXcolindex}{-1}%

```

Skip any trailing @ or ! columns for this cell:

```

8690 \booltrue{LWR@skipatbang}%
8691 }%

```

72.23.4 Longtable captions

longtable captions use \multicolumn.

Per the caption package. User-redefinable float type.

```
8692 \providecommand*{\LTcaptype}{table}
```

```

\LWR@longtabledatacaptiontag * [\langle toc entry \rangle] {\langle caption \rangle}

8693 \NewDocumentCommand{\LWR@longtabledatacaptiontag}{s o +m}%
8694 {%

```

Remember the latest name for \nameref:

```

8695 \IfValueTF{\#2}{% optional given?
8696   \ifblank{\#2}{% optional empty?
8697     {\LWR@setlatestname{\#3}}% empty
8698     {\LWR@setlatestname{\#2}}% given and non-empty
8699   }% optional given
8700   {\LWR@setlatestname{\#3}}% no optional

```

Create a multicolumn across all the columns:

Figure out how many extra HTML columns to add for @ and ! columns found between the first and the last column:

```
8701 \LWR@tabularhtmlcolumns{1}{\arabic{LWR@tabletotalLaTeXcols}}%
```

Create the multicolumn tag:

```
8702 \LWR@domulticolumn{\arabic{LWR@tabletotalLaTeXcols}}%
8703 {\arabic{LWR@tabhtmlcoltotal}}%
8704 {P}%
8705 {\% \LWR@domulticolumn
8706 \IfBooleanTF{#1}{star?}
```

Star version, show a caption but do not make a LOT entry:

```
8707 {\% yes star
8708     \LWR@figcaption%
8709     \LWR@isolate{#3}%
8710     \endLWR@figcaption%
8711 }%
8712 {\% No star:
```

Not the star version:

Don't step the counter if \caption[]{}A caption.}

```
8713 \ifbool{LWR@starredlongtable}{%
8714 {\%
8715     \ifblank{#2}{TOC entry
8716     {}%
8717     {\%
8718         \refstepcounter{\LTcaptype}%
8719         \protected@edef{\currentlabel}{%
8720             \nameuse{p@\LTcaptype}\nameuse{the\LTcaptype}%
8721         }%
8722     }%
8723 }}{}}
```

Create an HTML caption. Afterwards, maybe make a LOT entry.

```
8724 \LWR@figcaption%
8725 \LWR@isolate{\nameuse{fnum@\LTcaptype}}%
8726 \CaptionSeparator%
8727 \LWR@isolate{#3}%
8728 \endLWR@figcaption%
```

See if an optional caption was given:

```
8729 \ifblank{#2}{TOC entry empty}
```

if the optional caption was given, but empty, do not form a TOC entry

```
8730      {}%
```

If the optional caption was given, but might only be []:

```
8731      { % TOC entry not empty
8732          \IfNoValueTF{#2}{% No TOC entry?}
```

The optional caption is []:

```
8733      { % No TOC entry
8734          \addcontentsline%
8735          {\@nameuse{ext@\LTcaptype}}%
8736          {\LTcaptype}%
8737          {%
8738              \protect\newline%
8739              {\LWR@isolate{\@nameuse{p@\LTcaptype}}\@nameuse{the\LTcaptype}}%
8740                  {\ignorespaces \LWR@isolate{\#3}\protect\relax}%
8741              }%
8742          }% end of No TOC entry
```

The optional caption has text enclosed:

```
8743      { % yes TOC entry
8744          \addcontentsline%
8745          {\@nameuse{ext@\LTcaptype}}%
8746          {\LTcaptype}%
8747          {%
8748              \protect\newline%
8749              {\LWR@isolate{\@nameuse{p@\LTcaptype}}\@nameuse{the\LTcaptype}}%
8750                  {\ignorespaces \LWR@isolate{\#2}\protect\relax}%
8751              }%
8752          }% end of yes TOC entry
8753      }% end of TOC entry not empty
8754  }% end of no star
```

Skip any trailing @ or ! columns for this cell:

```
8755      \booltrue{\LWR@skipatbang}%
8756  }% end of \LWR@domulticolumn
8757  \defaddtocounter{\LWR@tableLaTeXcolindex}{\value{\LWR@tabletotalLaTeXcols}}%
8758  \defaddtocounter{\LWR@tableLaTeXcolindex}{-1}
8759
8760 }
```

72.23.5 Counting HTML tabular columns

The L^AT_EX specification for a table includes a number of columns separated by the & character. These columns differ in content from line to line. Additional virtual columns may be specified by the special @ and ! columns. These columns are identical from line to line, but may be skipped during a multicolumn cell.

For HTML output, @ and ! columns are placed into their own tabular columns. Thus, a L^AT_EX \multicolumn command may span several additional @ and ! columns in HTML

output. These additional columns must be added to the total number of columns spanned by an **HTML** multi-column data cell.

```
8761 \newcounter{LWR@tabhtmlcolindex}
8762 \newcounter{LWR@tabhtmlcolend}
8763 \newcounter{LWR@tabhtmlcoltotal}
```

\LWR@subtabularhtmlcolumns {*index*}

Factored from \LWR@tabularhtmlcolumns, which follows.

```
8764 \newcommand*{\LWR@subtabularhtmlcolumns}[1]{%
```

Temporarily define a macro equal to the @ specification for this column:

```
8765 \edef\LWR@atbangspec{\LWR@getexparray{\LWR@colatspec}{#1}}%
```

If the @ specification is not empty, add to the count:

```
8766 \ifdefempty{\LWR@atbangspec}%
8767   {}%
8768   {\defaddtocounter{LWR@tabhtmlcoltotal}{1}}%
```

Likewise for the ! columns:

```
8769 \edef\LWR@atbangspec{\LWR@getexparray{\LWR@colbangspec}{#1}}%
8770 \ifdefempty{\LWR@atbangspec}%
8771   {}%
8772   {\defaddtocounter{LWR@tabhtmlcoltotal}{1}}%
8773 }
```

\LWR@tabularhtmlcolumns {*starting L^AT_EX column*} {*number L^AT_EX columns*}

Compute the total number of **HTML** columns being spanned, considering the starting **L^AT_EX** table column and the number of **L^AT_EX** tabular columns being spanned. Any @ and ! columns within this span are included in the total count. The resulting number of **HTML** columns is returned in the counter **LWR@tabhtmlcoltotal**.

```
8774 \newcommand*{\LWR@tabularhtmlcolumns}[2]{%
```

Count the starting index, compute ending index, and begin with the count being the **L^AT_EX** span, to which additional @ and ! columns may be added:

```
8775 \defcounter{LWR@tabhtmlcolindex}{#1}%
8776 \defcounter{LWR@tabhtmlcoltotal}{#2}%
8777 \defcounter{LWR@tabhtmlcolend}{#1}%
8778 \defaddtocounter{LWR@tabhtmlcolend}{#2}%
```

If at the left edge, add the at/bang columns for the left edge:

```
8779 \ifnumcomp{\value{LWR@tabhtmlcolindex}}{=}{1}{%
8780   \LWR@subtabularhtmlcolumns{leftedge}%
8781 }{}
```

Walk across the L^AT_EX columns looking for @ and ! columns:

```

8782     \whileboolexpr{%
8783         test {%
8784             \ifnumcomp{\value{LWR@tabhtmlcolindex}}{<}{\value{LWR@tabhtmlcolend}}{%
8785                 }%
8786             }%
8787             {%
8788                 \LWR@subtabularhtmlcolumns{\arabic{LWR@tabhtmlcolindex}}{%
8789                     \defaddtocounter{LWR@tabhtmlcolindex}{1}%
8790                 }% whiledo
8791             }%
8792 \end{warpHTML}

```

72.24 Multirow if not loaded

A default defintion in case `multirow` is not loaded. This is used during table parsing.

```

8793 \begin{warpHTML}
8794 \newcommand{\multirow}[2][c]{}%
8795 \end{warpHTML}

```

72.25 Multicolumnrow

A print-mode version is defined here, and is also used during HTML output while inside a `\teximage`.

See section 369 for the HTML versions.

for HTML & PRINT: 8796 `\begin{warpall}`

```
\multicolumnrow {\langle 1:cols \rangle} {\langle 2:halign \rangle} [\langle 3:vpos \rangle] {\langle 4:numrows \rangle} [\langle 5:bigstruts \rangle] {\langle 6:width \rangle} [\langle 7:fixup \rangle] {\langle 8:text \rangle}
```

For discussion of the use of `\DeclareExpandableDocumentCommand`, see:
<https://tex.stackexchange.com/questions/168434/problem-with-abbreviation-of-multirow-and-multicolumn-latex>

`\AtBeginDocument` to adjust after the user may have loaded `multirow`, which requires several tests to determine which version is loaded and thus which options are available.

8797 `\AtBeginDocument{`

`\@ifundefined{@xmultirow}` determines if `multirow` was never loaded.

Null action if not loaded:

```

8798 \@ifundefined{@xmultirow}%
8799 {%

```

```

8800 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}{%
8801     {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
8802     {}%
8803 }% no version of multirow was loaded
8804 {% @xmultirow defined, so some version of multirow was loaded

```

\@ifpackageloaded{multirow} determines if v2.0 or later of `multirow` was used, which included the `\ProvidesPackage` macro.

The print version:

```

8805 \@ifpackageloaded{multirow}{% v2.0 or newer
8806 \ifpackagelater{multirow}{2016/09/01}{2016/09/27 for v2.0
8807 {% v2.0+:
8808 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}{%
8809     {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
8810     {\multicolumn{#1}{#2}{\@xmultirow[#3]{#4}{#5}{#6}{#7}{#8}}}%
8811 }%
8812 {% loaded but older, probably not executed:
8813 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}{%
8814     {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
8815     {\multicolumn{#1}{#2}{\@xmultirow[#4]{#5}{#6}{#7}{#8}}}%
8816 }%
8817 }% packageloaded{multirow}

```

If not `\ifpackageloaded{multirow}` but `\@xmultirow` is defined, then this must be v1.6 or earlier, which did not `\ProvidesPackage{multirow}`, and did not have the `vposn` option.

```

8818 {% v1.6 or older did not \ProvidePackage
8819 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}{%
8820     {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
8821     {\multicolumn{#1}{#2}{\@xmultirow[#4]{#5}{#6}{#7}{#8}}}%
8822 }%
8823
8824 }% \@ifundefined{@xmultirow}
8825
8826 \providecommand*{\multicolumnrow}{\LWR@print@multicolumnrow}
8827
8828 }% AtBeginDocument
8829 \end{warpall}

```

72.26 Utility macros inside a table

for HTML output: 8830 `\begin{warpHTML}`

Used to prevent opening a tabular data cell if the following token is one which does not create tabular data:

```
8831 \newcommand*{\LWR@donothing}{}%
```

In case array is not loaded:

```
8832 \let\firsthline\relax
8833 \let\lasthline\relax
8834 \newcommand*\{\\firsthline}{}%
8835 \newcommand*\{\\lasthline}{}%
```

In case bigdelim is not loaded:

```
8836 \newcommand*\{\\ldelim}{}%
8837 \newcommand*\{\\rdelim}{}%
8838 \end{warpHTML}
```

72.27 Special-case tabular markers

for HTML & PRINT: 8839 \begin{warpall}

\TabularMacro Place this just before inserting a custom macro in a table data cell. Doing so tells lwarp not to automatically start a new HTML table data cell yet. See section 8.10.1.

```
8840 \newcommand*\{\\TabularMacro}{}%
8841 \end{warpall}
```

\ResumeTabular Used to resume tabular entries after resuming an environment.

⚠ **tabular inside another environment** When creating a new environment which contains a tabular environment, lwarp's emulation of the tabular does not automatically resume when the containing environment ends, resulting in corrupted HTML rows. To fix this, use \ResumeTabular as follows. This is ignored in print mode.

```
\StartDefiningTabulars % because & is used in a definition
\newenvironment{outerenvironment}
{
  \tabular{cc}
  left & right \\
}
{
  \TabularMacro\ResumeTabular
  left & right \\
  \endtabular
}
\StopDefiningTabulars
```

for HTML output: 8842 \begin{warpHTML}

```
8843 \newcommand*\{\\ResumeTabular}{%
8844     \boolfalse{LWR@exittingtabular}}%
```

```

8845      \boolfalse{LWR@tabularmutemods}%
8846      \LWR@getmynexttoken%
8847 }

8848 \end{warpHTML}

for PRINT output: 8849 \begin{warpprint}

8850 \newcommand*\ResumeTabular{}{}

8851 \end{warpprint}

```

72.28 Checking for a new table cell

for HTML output: 8852 \begin{warpHTML}

\LWR@tabledatacolumntag Open a new HTML table cell unless the next token is for a macro which does not create data, such as \hline, \toprule, etc:

```

8853 \newcommand*\LWR@tabledatacolumntag{%
8854 {%
8855     \LWR@traceinfo{\LWR@tabledatacolumntag}{%
         \show\LWR@mynexttoken to see what tokens to look for
}

```

If not any of the below, start a new table cell:

```
8856 \global\let\LWR@mynextaction\LWR@tabledatasinglecolumntag%
```

If exiting the tabular:

```

8857 \ifdefequal{\LWR@mynexttoken}{\end}{%
8858     {\booltrue{\LWR@exittingtabular}}{%

```

longtable can have a caption in a cell

```

8859 \ifdefequal{\LWR@mynexttoken}{\caption}{%
8860     {\global\let\LWR@mynextaction\LWR@donothing}{%

```

Look for other things which would not start a table cell:

```

8861 \ifdefequal{\LWR@mynexttoken}{\multicolumn}{%
8862     {\global\let\LWR@mynextaction\LWR@donothing}{%
8863 \ifdefequal{\LWR@mynexttoken}{\multirow}{%
8864     {\global\let\LWR@mynextaction\LWR@donothing}{%
8865 \ifdefequal{\LWR@mynexttoken}{\multicolumnrow}{%
8866     {\global\let\LWR@mynextaction\LWR@donothing}{%
8867 \ifdefequal{\LWR@mynexttoken}{\noalign}{%
8868     {\global\let\LWR@mynextaction\LWR@donothing}{%

```

If an `\mrowcell`, this is a cell to be skipped over:

```
8869 \ifdefequal{\LWR@mynexttoken}{\mrowcell}%
8870   {\global\let\LWR@mynextaction\LWR@donothing}{()}%
```

If an `\mcolrowcell`, this is a cell to be skipped over:

```
8871 \ifdefequal{\LWR@mynexttoken}{\mcolrowcell}%
8872   {\global\let\LWR@mynextaction\LWR@donothing}{()}%

8873 \ifdefequal{\LWR@mynexttoken}{\TabularMacro}%
8874   {\global\let\LWR@mynextaction\LWR@donothing}{()}%

8875 \ifdefequal{\LWR@mynexttoken}{\hline}%
8876   {\global\let\LWR@mynextaction\LWR@donothing}{()}%

8877 \ifdefequal{\LWR@mynexttoken}{\firsthline}%
8878   {\global\let\LWR@mynextaction\LWR@donothing}{()}%

8879 \ifdefequal{\LWR@mynexttoken}{\lasthline}%
8880   {\global\let\LWR@mynextaction\LWR@donothing}{()}%

8881 \ifdefequal{\LWR@mynexttoken}{\toprule}%
8882   {\global\let\LWR@mynextaction\LWR@donothing}{()}%

8883 \ifdefequal{\LWR@mynexttoken}{\midrule}%
8884   {\global\let\LWR@mynextaction\LWR@donothing}{()}%

8885 \ifdefequal{\LWR@mynexttoken}{\cmidrule}%
8886   {\global\let\LWR@mynextaction\LWR@donothing}{()}%

8887 \ifdefequal{\LWR@mynexttoken}{\morecmidrules}%
8888   {\global\let\LWR@mynextaction\LWR@donothing}{()}%

8889 \ifdefequal{\LWR@mynexttoken}{\specialrule}%
8890   {\global\let\LWR@mynextaction\LWR@donothing}{()}%

8891 \ifdefequal{\LWR@mynexttoken}{\cline}%
8892   {\global\let\LWR@mynextaction\LWR@donothing}{()}%

8893 \ifdefequal{\LWR@mynexttoken}{\bottomrule}%
8894   {\global\let\LWR@mynextaction\LWR@donothing}{()}%

8895 \ifdefequal{\LWR@mynexttoken}{\hhline}%
8896   {\global\let\LWR@mynextaction\LWR@donothing}{()}%

8897 \ifdefequal{\LWR@mynexttoken}{\rowcolor}%
8898   {\global\let\LWR@mynextaction\LWR@donothing}{()}%

8899 \ifdefequal{\LWR@mynexttoken}{\arrayrulecolor}%
8900   {\global\let\LWR@mynextaction\LWR@donothing}{()}%
```

```

8901  \ifdefequal{\LWR@mynexttoken}{\doublerulesepcolor}%
8902      {\global\let\LWR@mynextaction\LWR@donothing}{ }%
8903  \ifdefequal{\LWR@mynexttoken}{\warpprintonly}%
8904      {\global\let\LWR@mynextaction\LWR@donothing}{ }%
8905  \ifdefequal{\LWR@mynexttoken}{\warpHTMLonly}%
8906      {\global\let\LWR@mynextaction\LWR@donothing}{ }%
8907  \ifdefequal{\LWR@mynexttoken}{\ldelim}%
8908      {\global\let\LWR@mynextaction\LWR@donothing}{ }%
8909  \ifdefequal{\LWR@mynexttoken}{\rdelim}%
8910      {\global\let\LWR@mynextaction\LWR@donothing}{ }%

```

For `arydshln`:

```

8911  \ifdefequal{\LWR@mynexttoken}{\hdashline}%
8912      {\global\let\LWR@mynextaction\LWR@donothing}{ }%
8913  \ifdefequal{\LWR@mynexttoken}{\cdashline}%
8914      {\global\let\LWR@mynextaction\LWR@donothing}{ }%
8915  \ifdefequal{\LWR@mynexttoken}{\firstdashline}%
8916      {\global\let\LWR@mynextaction\LWR@donothing}{ }%
8917  \ifdefequal{\LWR@mynexttoken}{\lastdashline}%
8918      {\global\let\LWR@mynextaction\LWR@donothing}{ }%

```

Ignore an empty line between rows:

```

8919  \ifdefequal{\LWR@mynexttoken}{\par}%
8920      {\global\let\LWR@mynextaction\LWR@donothing}{ }%

```

No action for an `\end` token.

Add similar to the above for any other non-data tokens which might appear in the table.

Start the new table cell if was not any of the above:

```

8921  \LWR@traceinfo{\LWR@tabledatacolumntag: about to do mynext}%
8922  \LWR@mynextaction%
8923  \LWR@traceinfo{\LWR@tabledatacolumntag: done}%
8924 }%
8925 \end{warpHTML}

```

72.29 \mrowcell

for HTML & PRINT: 8926 `\begin{warpall}`

- ⚠ **\mrowcell** The user must insert \mrowcell into any \multirow cells which must be skipped. This command has no action during print output.

```
8927 \newcommand*\{mrowcell}{}%
```

```
8928 \end{warpall}
```

72.30 \mcolrowcell

for HTML & PRINT: 8929 \begin{warpall}

- ⚠ **\mcolrowcell** The user must insert \mcolrowcell into any \multicolumn cells which must be skipped. This command has no action during print output.

```
8930 \newcommand*\{mcolrowcell}{}%
```

```
8931 \end{warpall}
```

72.31 HTML tabular environment

for HTML output: 8932 \begin{warpHTML}

These are default definitions in case booktabs is not loaded, and are not expected to be used, but must exist as placeholders. memoir may have already loaded booktabs.

```
8933 \providetcommand*\{toprule}[1][]{\hline}
8934 \providetcommand*\{midrule}[1][]{\hline}
8935 \providetcommand*\{cmidrule}{\cline}
8936 \providetcommand*\{bottomrule}[1][]{\hline}
8937 \providetcommand*\{addlinespace}[1][]{}
8938 \providetcommand*\{morecmidrules}(){}
8939 \providetcommand*\{specialrule}[3]{\hline}
```

\noalign {⟨text⟩} Redefined for use inside tabular.

```
8940 \LetLtxMacro{\LWR@orignoalign}{\noalign}
8941
8942 \newcommand{\LWR@tabularnoalign}[1]{%
8943   \advance\rownum\m@ne%
8944   \LetLtxMacro{\LWR@save@xcolorrowHTMLcolor}{\LWR@xcolorrowHTMLcolor}%
8945   \renewcommand*\{LWR@xcolorrowHTMLcolor}{}%
8946   \multicolumn{\value{LWR@tabletotalLaTeXcols}}{\l}{\#1} \\
8947   \LetLtxMacro{\LWR@xcolorrowHTMLcolor}{\LWR@save@xcolorrowHTMLcolor}%
8948   \% \rowc@lors%
8949   \LWR@getmynexttoken%
8950 }
```

\LWR@HTMLhline The definition of \hline depends on whether `tbls` has been loaded. If so, optional space below the line may be specified, but will be ignored.

```

8951 \AtBeginDocument{
8952
8953 @ifpackageloaded{lwarp-tables}
8954 {
8955     \newcommand*\LWR@HTMLhline}[1][]{
8956         \ifbool{FormatWP}{%
8957             {\LWR@docmidrule{1-\arabic{LWR@tabletotalTeXcols}}}{%
8958                 {\defaddtocounter{LWR@hlines}{1}}{%
8959                     \LWR@getmynexttoken}{%
8960                 }{%
8961             }{%
8962                 \newcommand*\LWR@HTMLhline}{%
8963                     \ifbool{FormatWP}{%
8964                         {\LWR@docmidrule{1-\arabic{LWR@tabletotalTeXcols}}}{%
8965                             {\defaddtocounter{LWR@hlines}{1}}{%
8966                                 \LWR@getmynexttoken}{%
8967                             }{%
8968                         }{%
8969 }% AtBeginDocument

```

\LWR@HTMLcline {*columns*}

```

8970 \NewDocumentCommand{\LWR@HTMLcline}{m}{%
8971     {\LWR@docmidrule{#1}\LWR@getmynexttoken}{%

```

\LWR@tabular@warpprintonly {*contents*}

Only process the contents if producing printed output. Modified inside a `tabular` to grab the next token.

```

8972 \newcommand{\LWR@tabular@warpprintonly}[1]{%
8973     \ifbool{warpingprint}{#1}{}{%
8974         \LWR@getmynexttoken{%
8975 }%

```

\LWR@nullifyNoAutoSpacing For `babel-french`, turn off auto spacing at the start of the tabular, then nullify the autospacing commands inside the tabular, since they were not compatible with the tabular column parsing code, which uses `xstring`.

```

8976 \AtBeginDocument{
8977 @ifundefined{NoAutoSpacing}{%
8978     % no babel-french
8979     \newcommand*\LWR@nullifyNoAutoSpacing{}{%
8980 }% no babel-french
8981     % yes babel-french
8982     \newcommand*\LWR@nullifyNoAutoSpacing}{%
8983         \NoAutoSpacing{%
8984             \renewcommand*\NoAutoSpacing{}{%
8985                 \renewcommand*\LWR@FBcancel{}{%
8986             }{%

```

```
8987 }% yes babel-french
8988 }% AtBeginDocument
```

```
Env tabular <direction> [<vertposition>] {<colspeсs>}
```

The <direction> is from plext for Japanese documents, and is ignored.

```
8989 \StartDefiningTabulars
8990
8991 \NewDocumentCommand{\LWR@HTML@@tabular}{d<> o m}
8992 {%
8993     \LWR@traceinfo{\LWR@HTML@@tabular started}%
```

- ⚠ **<table> inside ** In L^AT_EX, a `tabular` may be placed inside a `minipage`, but in HTML a `<table>` may not be inside a ``. Since there may be several nested ``s, with an unknown number of other objects between, it is hard to undo all these ``s before the `<table>` then redo them after. The browser probably compensates for this situation, but formatting may be lost inside the `<table>` because several things are neutralized inside a ``. Furthermore, in the HTML output, the entire `<table>` is placed on a single line of HTML code, since the line breaking commands are neutralized inside a ``. Since this is such a sloppy situation, a warning is issued here instructing the user to please isolate the `` to print-only.

```
8994     \ifnumcomp{\value{\LWR@spandepth}}{>}{0}{%
8995         \PackageWarning{l warp}{%
8996             A tabular is being used inside a span such as\MessageBreak
8997             a minipage. Some formatting may not be correct\MessageBreak
8998             in the tabular.\MessageBreak
8999             It is recommended to use \protect\warpprintonly\space or the\MessageBreak
9000                 warpprint environment to isolate the span to\MessageBreak
9001                 print-only,%
9002         }
9003     }{%
9004     \addtocounter{\LWR@tabulardepth}{1}}%
```

Not yet started a table row:

```
9005     \boolearnfalse{\LWR@startedrow}%
```

Not yet doing any rules:

```
9006     \defcounter{\LWR@hlines}{0}%
9007     \defcounter{\LWR@hdashedlines}{0}%
9008     \boolearnfalse{\LWR@doingtbrule}%
9009     \boolearnfalse{\LWR@doingsmidrule}%
```

For `babel-french`, turn off auto spacing one time, then nullify the autospacing commands since were not compatible with the `tabular` parsing code.

```
9010     \LWR@nullifyNoAutoSpacing%
```

Have not yet found the end of `tabular` command. Unmute the @ and ! columns.

```
9011 \boolfalse{LWR@existingtabular}%
9012 \boolfalse{LWR@tabularmutemods}%
```

Error if failed to use `\mrowcell` or `\mcolrowcell` when needed.

```
9013 \boolfalse{LWR@usedmultirow}%
9014 \boolfalse{LWR@foundmrowcell}%
```

```
9015 \renewcommand*{\LWR@multicoltext}{}%
```

Create the table tag:

```
9016 \booltrue{LWR@intabularmetadata}%
9017 \LWR@traceinfo{\LWR@tabular: About to LWR@forecenewpage.}%
9018 \LWR@forcenewpage
9019 \LWR@htmlblocktag{table}%
```

Parse the table columns:

```
9020 \LWR@parsetablecols{#3}%
```

Table col spec is: `\LWR@tablecols` which is a string of llccrr, etc.

Do not place the table inside a paragraph:

```
9021 \LWR@stoppars%
```

Track column #:

```
9022 \defcounter{LWR@tableLaTeXcolindex}{1}%
```

Have not yet added data in this column:

```
9023 \global\boolfalse{LWR@tabularcelladded}%
```

Start looking for midrules:

```
9024 \LWR@clearmidrules%
```

`\\" becomes a macro to end the table row:`

```
9025 \LetLtxMacro{\\"}{\LWR@tabularendofline}%
```

`\warpprintonly` inside a tabular must grab the next token.

```
9026 \LetLtxMacro{\warpprintonly}{\LWR@tabular@warpprintonly}%
```

The following adjust for `colortbl`.

```
9027 \LetLtxMacro{\arrayrulecolor}{\arrayrulecolor\nexttoken}%
9028 \LetLtxMacro{\doublerulesepcolor}{\doublerulesepcolor\nexttoken}%
9029 \def\LWR@columnHTMLcolor{}%
```

```

9030 \def\LWR@rowHTMLcolor{}%
9031 \def\LWR@cellHTMLcolor{}%
9032 \@rowcolors%

```

The vertical rules are set to the color active at the start of the tabular. `\arrayrulecolor` will then affect horizontal rules inside the tabular, but not the vertical rules.

```

9033 \ifdefvoid{\LWR@ruleHTMLcolor}{%
9034   {\edef\LWR@vertruleHTMLcolor{black}}%
9035   {\edef\LWR@vertruleHTMLcolor{\LWR@origpound\LWR@ruleHTMLcolor}}%

```

Tracking the depth of cell color <div>s:

```
9036 \defcounter{LWR@cellcolordepth}{0}%
```

The following may appear before a data cell is created, so after doing their actions, we look ahead with `\LWR@getmynexttoken` to see if the next token might create a new data cell:

The optional parameter for `\hline` supports the `tbls` package.

```

9037 \LWR@traceinfo{\LWR@@HTML@tabular: redefining macros}%
9038 \LetLtxMacro\noalign{\LWR@tabularnoalign}%
9039 \LetLtxMacro\hline{\LWR@HTMLhline}%
9040 \LetLtxMacro\cline{\LWR@HTMLcline}%

9041 \DeclareDocumentCommand{\hdashline}{o}{%
9042   \ifbool{FormatWP}{%
9043     {\LWR@docdashline{1-\arabic{LWR@tabletotalLaTeXcols}}}%
9044     {\defaddtocounter{LWR@hdashedlines}{1}}%
9045     \LWR@getmynexttoken%
9046   }%
9047   \DeclareDocumentCommand{\cdashline}{m}{%
9048     \LWR@docdashline{##1}\LWR@getmynexttoken%
9049   }%
9050   \DeclareDocumentCommand{\firsthdashline}{o}{%
9051     \ifbool{FormatWP}{%
9052       {\LWR@docdashline{1-\arabic{LWR@tabletotalLaTeXcols}}}%
9053       {\defaddtocounter{LWR@hdashedlines}{1}}%
9054     \LWR@getmynexttoken%
9055   }%
9056   \DeclareDocumentCommand{\lasthdashline}{o}{%
9057     \ifbool{FormatWP}{%
9058       {\LWR@docdashline{1-\arabic{LWR@tabletotalLaTeXcols}}}%
9059       {\defaddtocounter{LWR@hdashedlines}{1}}%
9060     \LWR@getmynexttoken%
9061   }%

```

The following create data cells and will have no more data in this cell, so we do not want to look ahead for a possible data cell, so do not want to use `\LWR@getmynexttoken`.

```

9062  \renewcommand{\multicolumn}{\LWR@htmlmulticolumn}%
9063  \renewcommand*{\mrowcell}{%
9064      \LWR@maybenewtablerow%
9065      \LWR@tabularleftedge%
9066      \booltrue{\LWR@skippingmrowcell}%
9067      \booltrue{\LWR@foundmrowcell}%
9068  }%
9069  \renewcommand*{\mcolrowcell}{%
9070      \LWR@maybenewtablerow%
9071      \booltrue{\LWR@skippingmcolrowcell}%
9072      \booltrue{\LWR@foundmrowcell}%
9073  }%
9074  \LetLtxMacro\caption{\LWR@longtabledatacaptiontag}

```

Reset for new processing:

```

9075  \boolfalse{\LWR@tableparcell}%
9076  \boolfalse{\LWR@skippingmrowcell}%
9077  \boolfalse{\LWR@skippingmcolrowcell}%
9078  \boolfalse{\LWR@skipatbang}%
9079  \boolfalse{\LWR@emptyatbang}%

```

Set & for its special meaning inside the tabular:

```

9080  \StartDefiningTabulars%
9081  \protected\gdef&{\LWR@tabularampersand}%

```

Locally force any minipages to be fullwidth, until the end of the tabular:

```

9082  \booltrue{\LWR@forceminipagefullwidth}%

```

Nest one level deeper of tabular paragraph handling:

```

9083  \addtocounter{\LWR@tabularpardepth}{1}%

```

Look ahead for a possible table data cell:

```

9084  \LWR@traceinfo{\LWR@@HTML@tabular: about to \LWR@getmynexttoken}%
9085  \LWR@getmynexttoken%
9086 }%

```

Ending the environment:

```

9087 \newcommand*{\LWR@HTML@endtabular}%
9088 {%
9089  \LWR@traceinfo{\LWR@HTML@endtabular}%

```

Unnest one level of tabular paragraph handling:

```

9090  \addtocounter{\LWR@tabularpardepth}{-1}%
9091  \ifboolexpr{%
9092      test {%
9093          \ifnumcomp{\value{\LWR@tableLaTeXcolindex}}{<}{%
9094              \value{\LWR@tabletotalLaTeXcols}%

```

```

9095      } or %
9096      (%
9097          bool{LWR@intabularmetadata} and%
9098          not bool{LWR@tabularcelladded} and%
9099          test {%
9100              \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{=}{%
9101                  \value{LWR@tabletotalLaTeXcols}}%
9102              }%
9103          )%
9104      )%
9105      {%
9106          \LWR@tabularfinishrow%
9107      }%
9108      {%
9109          \LWR@closetabledatacell%
9110      }%
9111      \LWR@htmlblocktag{/tr}%

```

xcolor row color support:

```

9112      @rowc@lors%
9113      \LWR@htmlblocktag{/table}%
9114      \boolfalse{LWR@intabularmetadata}%

```

Unnest one level of tabular:

```
9115      \addtocounter{LWR@tabulardepth}{-1}%

```

Restore & to its usual meaning:

```

9116      \ifnumequal{\value{LWR@tabulardepth}}{0}{%
9117          \protected\gdef&{\LWR@origampmacro}%
9118          \StopDefiningTabulars%
9119      }{%

```

Error if used \multirow or \multicolumnrow without using \mrowcell or \mcolrowcell.

```

9120      \ifbool{LWR@usedmultirow}{%
9121          \ifbool{LWR@foundmrowcell}{%
9122              {}%
9123          }{%
9124              \PackageError{lwarp}%
9125          }{%
9126              When using \protect\multirow, \protect\multicolumnrow, \MessageBreak
9127              or the bigdelim package, \MessageBreak
9128              place \protect\mrowcell\space or \protect\mcolrowcell\MessageBreak
9129              in empty cells which are to be skipped.\MessageBreak
9130              See the Lwarp package documentation:\MessageBreak
9131              "Special cases and limitations" -> "Tabular"%
9132          }%
9133      }{%
9134          See the Lwarp package documentation:\MessageBreak

```

```

9135           "Special cases and limitations" -> "Tabular".
9136           }%
9137           }%
9138     }{ }%}

9139   \LWR@traceinfo{\LWR@HTML@endtabular finished}%
9140 }
9141
9142 \csletcs{\LWR@HTML@endtabular*}{\LWR@HTML@endtabular}
9143
9144 \StopDefiningTabulars

```

`siunitx` may redefine `tabular`, so set the following later:

```

9145 \AtBeginDocument{
9146   \LetLtxMacro{\LWR@origendtabular}{\endtabular}
9147   \csletcs{\LWR@origendtabular*}{\endtabular*}
9148   \LWR@formatted{@tabular}
9149   \LWR@formatted{endtabular}
9150   \LWR@formatted{endtabular*}
9151 }

9152 \end{warpHTML}

```

73 Cross-references

Sectioning commands have been emulated from scratch, so the cross-referencing commands are custom-written for them. Emulating both avoids several layers of patches.

File `*_html.aux` A new entry in `*_html.aux` is used to remember section name, file, and `lateximage` depth and number for each label:

```

\newlabel{<labelname>}@lwarp}{{<section name>}{{<filename>}}
  {<limagedepth>}{{<imagenumber>}}}

```

Table 12 shows the data structures related to cross-referencing.

for HTML output: 9153 `\begin{warpHTML}`

73.1 Setup

`\@currentlabelname` To remember the most recently defined section name, description, or caption, for `\nameref`.

```

9154 \providecommand*{\@currentlabelname}{}}

```

Table 12: Cross-referencing data structures

Original L ^A T _E X:	(print and HTML)
\refstepcounter: Steps the counter and sets \currentlabel.	
\@currentlabel: \p@<ctr>\the<ctr> Updated by \refstepcounter.	
\label: Writes to the .aux file: \newlabel{<label>}{{\@currentlabel}{\thepage}}	
\newlabel: When the .aux file is read, sets \r@<label>.	
\r@<label>: Set to: {{\@currentlabel}{\thepage}}	
\ref: Returns the first part of \r@<label>.	
\pageref: Returns the second part of \r@<label>.	
Added by l warp:	(HTML only)
\label: Adds HTML tags (section 73.3), and another .aux entry (section 73.2).	
\newlabel: Unchanged. When the .aux file is read, sets \r@<label>@l warp.	
\r@<label>@l warp: Set to {{section_name}{file_name}{depth}{number}}: \LWR@nameref: The section name for this label. \LWR@htmlfileref: The filenumber or name for this label. \LWR@lateximagedepthref: The lateximagedepth for this label. \LWR@lateximagenumberref: The lateximagenumber for this label.	
\nameref: Emulated from hyperref for l warp. See section 73.4.	
\ref and \nameref: Adds HTML tags. See section 73.4.	
Added by amsmath:	(print and HTML)
\label: Execution is delayed until the math environment is completed.	
\ltx@label: L ^A T _E X \label, (HTML: patched by l warp,) later patched by cleveref.	
Added by cleveref:	(print and HTML)
\refstepcounter: Added: sets \cref@currentlabel.	
\cref@currentlabel: (<type>=<ctr> unless an alias is used): [<type>][\arabic{<ctr>}][<parent ctrs>]{\p@<ctr>\the<ctr>} Also see section 59.4 for use with footnotes.	
\label: Writes to the .aux file: \newlabel{<label>@\cref}{{\cref@currentlabel}{\thepage}}	
\newlabel: Unchanged. When the .aux file is read, sets \r@<label>@\cref.	
\r@<label>@\cref: Set to: {{\cref@currentlabel}{\thepage}}	
Utility functions: See \cref@getlabel, \cref@gettype, \cref@getcounter, \cref@getprefix.	
Cross-referencing names: \crefname and \Crefname assign human-readable names for references to this counter type.	
Additionally patched by l warp:	(HTML only)
\cref, etc.: Modified for l warp. See section 87.	
\label inside math: See section 79.7.1.	
Footnotes: See \noteentry in section 59.4.	

```
\LWR@stripperiod {⟨text⟩} [⟨.⟩]
```

Removes a trailing period.

```
9155 \def\LWR@stripperiod#1.\ltx@empty#2@nil{#1}%
```

```
\LWR@setlatestname {⟨object name⟩}
```

Removes \label, strips any final period, and remembers the result.

```
9156 \newcommand*{\LWR@setlatestname}[1]{%
```

Remove \label and other commands from the name, the strip any final period. See [gettitledstring](#).

```
9157 \GetTitleStringExpand{#1}%
9158 \edef@\currentlabelname{\detokenize\expandafter{\GetTitleStringResult}}%
9159 \edef@\currentlabelname{%
9160   \expandafter\LWR@stripperiod@\currentlabelname%
9161   \ltx@empty.\ltx@empty@nil%
9162 }%
9163 }
```

73.2 New lwarp labels.

File `*_html.aux` A new entry in `*_html.aux` is used to remember section name, file, and lateximage depth and number for each label:

```
\newlabel{⟨labelname⟩@lwarp}{{⟨section name⟩}{⟨filename⟩}
{⟨limagedepth⟩}{⟨Imagenumber⟩}}
```

See:

<http://tex.stackexchange.com/questions/57194/extract-section-number-from-equation-reference>

```
\LWR@setref {⟨args list⟩} {⟨selector⟩} {⟨label⟩}
```

@setref without the \null (\hbox), and without the warning messages. Each caused problems with lwarp references. The regular reference will cause the warning.

```
9164 \def\LWR@setref#1#2#3{%
9165   \ifx#1\relax%
9166     ??%
9167   \else%
9168     \expandafter#2#1%
9169   \fi}
```

```
\LWR@nameref {⟨label⟩} Returns the section name for this label:
```

```

9170 \newcommand*{\LWR@nameref}[1]{%
9171     \expandafter\LWR@setref\csname r@#1@l warp\endcsname\LWR@firstoffour{#1}%
9172 }

```

\LWR@htmlfileref {\langle label\rangle} Returns the file number or name for this label:

```

9173 \newcommand*{\LWR@htmlfileref}[1]{%
9174     \expandafter\LWR@setref\csname r@#1@l warp\endcsname\LWR@secondoffour{#1}%
9175 }

```

\LWR@lateximagedepthref {\langle label\rangle} Returns the `lateximagedepth` for this label:

```

9176 \newcommand*{\LWR@lateximagedepthref}[1]{%
9177     \expandafter\LWR@setref\csname r@#1@l warp\endcsname\LWR@thirdoffour{#1}%
9178 }

```

\LWR@lateximagenumberref {\langle label\rangle} Returns the `lateximagenumber` for this label:

```

9179 \newcommand*{\LWR@lateximagenumberref}[1]{%
9180     \expandafter\LWR@setref\csname r@#1@l warp\endcsname\LWR@fourthoffour{#1}%
9181 }

```

\LWR@lwarplabel {\langle label\rangle} Sanitize the name and then creates the label:

```

9182 \newcommand*{\LWR@lwarplabel}[1]{%
9183     \LWR@traceinfo{\LWR@lwarplabel !#1!}%
9184     \LWR@setLatestname{\@currentlabelname}%
9185         \@bsphack%
9186         \protected@write\@auxout{}{%
9187             \%%
9188             \string\newlabel{#1@l warp}{%
9189                 \@currentlabelname}%
9190             \%%
9191                 \ifbool{FileSectionNames}{%
9192                     \LWR@thisfilename}%
9193                     \arabic{\LWR@htmlfilenumber}}%
9194             \%%
9195             \arabic{\LWR@lateximagedepth}}%
9196             \arabic{\LWR@lateximagenumber}}%
9197         \%%
9198         \@esphack%
9199     \@esphack%
9200 }

```

73.3 Labels

\LWR@sublabel {\langle label\rangle} Creates an HTML id tag.

\detokenize is used to allow underscores in the labels.

```

9201 \newcommand*{\LWR@sublabel}[1]{%
9202     \LWR@traceinfo{\LWR@sublabel !#1!}%

```

Create an `HTML` id tag unless are inside a `lateximage`, since it would appear in the image:

```
9203     \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
9204     {}%
9205     {%
9206       \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
9207         {}%
9208         {%
9209           \ifbool{LWR@doingstartpars}%
9210             {%
9211               \ifbool{LWR@doingapar}%
9212                 {%
9213                   \ifbool{LWR@parstarted}%
9214                     {%
9215                       \ifbool{LWR@stoppars}%
9216                         \LWR@htmltag{a \LWR@print@mbox{id="\LWR@sanitized"}}%
9217                         \LWR@htmltag{/a}%
9218                       \LWR@startpars%
9219                     }%
9220                   }%
9221                 {%
9222                   \ifbool{LWR@parnotstarted}%
9223                     {%
9224                       \ifbool{LWR@stoppars}%
9225                         \LWR@htmltag{a \LWR@print@mbox{id="\LWR@sanitized"}}%
9226                         \LWR@htmltag{/a}%
9227                       \LWR@startpars%
9228                     }%
9229                   }%
9230                 }%
9231               }%
9232             }%
9233           }%
9234         }%
9235       }%
9236     }%
9237   }%
9238 }
```

If not doing a `lateximage`, create an `HTML` ID tag: (To be factored...)

```
9206     \LWR@sanitize{#1}%
9207     \ifbool{LWR@doingstartpars}%
9208       {%
9209         \ifbool{LWR@doingapar}%
9210           {%
9211             \ifbool{LWR@parstarted}%
9212               \LWR@htmltag{a \LWR@print@mbox{id="\LWR@sanitized"}}%
9213               \LWR@htmltag{/a}%
9214             }%
9215           {%
9216             \ifbool{LWR@parnotstarted}%
9217               \LWR@htmltag{a \LWR@print@mbox{id="\LWR@sanitized"}}%
9218               \LWR@htmltag{/a}%
9219             }%
9220           }%
9221         {%
9222           \ifbool{LWR@parallowed}%
9223             \LWR@htmltag{a \LWR@print@mbox{id="\LWR@sanitized"}}%
9224             \LWR@htmltag{/a}%
9225           }%
9226         }%
9227       }%
9228     }%
9229   }%
9230 }
```

`\LWR@new@label` (`<bookmark>`) {`<label>`} [`<type>`]

`\label` during `HTML` output when not in `SVG` math mode, removing extra spaces around the label, as done by a regular `LATEX` `\label`.

The is also used during a `lateximage`, including `SVG` math, since the special label handling is required, but `\LWR@sublabel` does not generate `HTML` tags inside a `lateximage`.

`clevereref` later encases this to add its own cross-referencing.

The optional `<bookmark>` is per the `memoir` class, and is ignored.

The optional `<type>` is per the `ntheorem` package, and is ignored.

```
9227 \NewDocumentCommand{\LWR@new@label}{d() m o}{%
9228   \LWR@traceinfo{LWR@new@label: starting}%
9229   \LWR@traceinfo{LWR@new@label: !#2!}%
9230 }%
```

Create a traditional `LATEX` label, as modified by `cleveref`:

```
9231 \LWR@orig@label{#2}%
```

Create a special label which holds the section number, LWR@htmlfilename, LWR@lateximagedepth, and LWR@lateximagenumber:

```

9232      \LWR@traceinfo{%
9233          LWR@new@label: filesectionnames is %
9234          \ifbool{FileSectionNames}{true}{false}%
9235      }%
9236      \LWR@traceinfo{%
9237          LWR@new@label: LWR@thisfilename is !\LWR@thisfilename!%
9238      }%
9239      \LWR@traceinfo{%
9240          LWR@new@label: LWR@htmlfilename is \arabic{LWR@htmlfilename}%
9241      }%
9242      \LWR@lwarplabel{#2}%
9243      \LWR@sublabel{#2}%
9244      % \@esphack%
9245      \LWR@traceinfo{LWR@new@label: done}%
9246 }
```

73.4 References

\LWR@addlinktitle

```

9247 \newcommand*{\LWR@addlinktitle}{%
9248     \ifdefvoid{\LWR@ThisAltText}{}{ % space
9249         title="\LWR@ThisAltText" % space
9250         \gdef\LWR@ThisAltText{}%
9251     }%
9252 }
```

\LWR@startref {<label>} (Common code for \ref and \nameref.)

Open an HTML tag reference to a filename, # character, and a label.

```

9253 \newcommand*{\LWR@startref}[1]
9254 {%
9255     \LWR@sanitize{#1}%
9256     \LWR@traceinfo{\LWR@startref A: !#1!}%
}
```

Create the filename part of the link:

```

9257     \LWR@htmlltag{a href="%"
9258     \LWR@traceinfo{\LWR@startref B}%
9259     \LWR@print@mbox{\LWR@htmlrefsectionfilename{#1}}%
9260     \LWR@traceinfo{\LWR@startref C}%
9261     \LWR@origpound%
```

Create the destination id:

See if LWR@lateximagedepth is unknown:

```

9262     \LWR@traceinfo{\LWR@startref D: !#1!}%
9263     \ifcsundef{r@#1@lwarp}%
```

“??” if `LWR@lateximagedepth` is unknown, so create a link with an unknown destination:

```
9264      {%
9265          \LWR@traceinfo{LWR@startref D0: ??}%
9266          ??%
9267      }%
```

If `LWR@lateximagedepth` is known. Use a `lateximage` if the depth is greater than zero, or a regular link otherwise:

```
9268      {%
9269          \ifthenelse{\cnttest{\LWR@lateximagedepthref{#1}}{>}{0}}{%
9270              {%
9271                  \LWR@ImagesName\LWR@lateximagenumberref{#1}%
9272              }%
9273          {%
9274              \LWR@traceinfo{LWR@startref D3}%
}
```

`\detokenize` is used to allow underscores in the labels:

```
9275          \LWR@print@mbox{\LWR@sanitized}%
9276      }%
9277  }%
9278  \LWR@traceinfo{LWR@startref E}%
```

Closing quote:

```
9279  "%
```

Maybe add a title:

```
9280      \LWR@addlinktitle%
9281  }%
9282  \LWR@traceinfo{LWR@startref F}%
9283 }
```

`\LWR@subnewref {<label>} {<label or sub@label>}`

Factored for the `subfig` package. Uses the original label for the hyper-reference, but prints its own text, such as “1(b)”.

```
9284 \NewDocumentCommand{\LWR@subnewref}{m m}{%
9285     \LWR@traceinfo{LWR@subnewref #1 #2}%
9286     \LWR@startref{#1}%
9287     \LWR@print@ref{#2}%
9288     \LWR@htmltag{/a}%
9289 }
```

`\ref * {<label>}` `\ref` is redefined to `\LWR@HTML@ref`, except inside the text part of a `\hyperref`, where it is redefined to `\LWR@ref@ignorestar`.

\LWR@HTML@ref * {*<label>*} Create an internal document reference link, or without a link if starred per **hyperref**.

```

9290 \NewDocumentCommand{\LWR@HTML@ref}{s m}{%
9291     \LWR@traceinfo{\LWR@HTML@ref !#2!}%
9292     \IfBooleanTF{#1}{%
9293         {\LWR@print@ref{#2}}%
9294         {\LWR@subnewref{#2}{#2}}%
9295     }%
9296
9297 \LWR@formatted{ref}
```

\LWR@ref@ignorestar * {*<label>*} For use inside \hyperref. Ignores the star, then uses the original \ref.

```

9298 \NewDocumentCommand{\LWR@ref@ignorestar}{s m}{%
9299     \LWR@print@ref{#2}%
9300 }
```

\pagerefPageFor Text for page references.

```
9301 \newcommand*{\pagerefPageFor}[1]{see }
```

\pageref * {*<label>*} Create an internal document reference, or just the unlinked number if starred, per **hyperref**.

```

9302 \NewDocumentCommand{\LWR@new@pageref}{s m}{%
9303     \IfBooleanTF{#1}{%
9304         {(\pagerefPageFor\LWR@print@ref{#2})}%
9305         {(\cpageref{#2})}%
9306     }}
```

\nameref {*<label>*}

```

9307 \newrobustcmd*{\nameref}[1]{%
9308     \LWR@traceinfo{\nameref}%
9309     \LWR@startref{#1}%
9310     \LWR@traceinfo{\nameref B}%
9311     \LWR@nameref{#1}%
9312     \LWR@traceinfo{\nameref C}%
9313     \LWR@htmlltag{/a}%
9314     \LWR@traceinfo{\nameref: done}%
9315 }
```

\Nameref {*<label>*} In print, adds the page number. In HTML, does not.

```
9316 \LetLtxMacro{\Nameref}{\nameref}
```

73.5 Hyper-references

 Note that the code currently only sanitizes the underscore character. Additional characters should be rendered inert as well. See the `hyperref.sty` definition of `\gdef\hyper@normalise` for an example.

Pkg `hyperref`

 Do not tell other packages that `hyperref` is emulated. Some packages patch various commands if `hyperref` is present, which will probably break something, and the emulation already handles whatever may be emulated anyhow.

```
9317 % DO NOT TELL OTHER PACKAGES TO ASSUME HYPERREF, lest they attempt to patch it:  
9318 % \EmulatesPackage{hyperref}[2015/08/01]% Disabled. Do not do this.
```

Emulates `hyperref`:

`\@currentHref` Added to support backref.

```
9319 \AtBeginDocument{  
9320  
9321 \def\@currentHref{  
9322     autopage-\theLWR@currentautosec%  
9323 }  
9324  
9325 }
```

`\LWR@linkcatcodes` Sets catcodes before processing macros which have hyperlinks as arguments.

```
9326 \newcommand*{\LWR@linkcatcodes}{%  
9327     \catcode`\#=12%  
9328     \catcode`\%=12%  
9329     \catcode`\&=12%  
9330     \catcode`\~=12%  
9331     \catcode`\_=12%
```

For `babel-french`:

```
9332 \LWR@FBcancel%  
9333 }
```

`\LWR@linkmediacatcodes` Sets catcodes before processing macros which have hyperlinks as arguments. Modified for multimedia links.

```
9334 \newcommand*{\LWR@linkmediacatcodes}{%  
9335     \catcode`\#=12%  
9336     \catcode`\%=12%  
9337 %     \catcode`\&=12% left alone for splitting flash variables  
9338     \catcode`\~=12%  
9339     \catcode`\_=12%
```

For **babel-french**:

```
9340     \LWR@FBcancel%
9341 }
```

\LWR@subhyperref {⟨URL⟩}

Starts a link for \LWR@hrefb. A group must have been opened first, with nullified catcodes. The text name is printed afterwards, after the group is closed and catcodes restored.

```
9342 \NewDocumentCommand{\LWR@subhyperref}{m}{%
9343     \LWR@traceinfo{\LWR@subhyperref !#1!}%
9344     \LWR@sanitize{#1}%
9345     \LWR@htmltag{%
9346         a href="\LWR@sanitized" % space
9347         \LWR@addlinktitle % space
9348         target="\_\_blank" % space
9349     }%
9350 }
```

\LWR@subhyperreftext {⟨text⟩}

Finishes the hyperref for \LWR@hrefb. Catcodes must have been restored already. To be used after \LWR@subhyperref, and after its group has been closed.

```
9351 \newcommand{\LWR@subhyperreftext}[1]{%
9352     #1%
9353     \LWR@htmltag{/a}%
9354     \LWR@ensuredoingapar%
9355 }
```

\LWR@subhyperrefclass {⟨URL⟩} {⟨text⟩} {⟨htmlclass⟩}

```
9356 \NewDocumentCommand{\LWR@subhyperrefclass}{m +m m}{%
9357     \LWR@htmltag{%
9358         a % space
9359         href="\begingroup\@sanitize#1\endgroup" % space
9360         class="#3" % space
9361         \LWR@addlinktitle % space
9362     }\LWR@orignewline%
9363     #2%
9364     \LWR@htmltag{/a}%
9365     \LWR@ensuredoingapar%
9366 }
```

\href [⟨options⟩] {⟨URL⟩}

Create a link with accompanying text:

```
9367 \DeclareDocumentCommand{\LWR@hrefb}{O{} m}{%
9368     \LWR@ensuredoingapar%
```

```

9369      \LWR@subhyperref{#2}%
9370      \endgroup% restore catcodes
9371      \LWR@subhyperreftext%
9372 }
9373
9374 \newrobustcmd*\{\href}{%
9375     \begingroup%
9376     \LWR@linkcatcodes%
9377     \LWR@hrefb%
9378 }

```

\nolinkurl {⟨URL⟩}

Print the name of the link without creating the link:

```

9379 \newcommand*\{\LWR@nolinkurlb}[1]{%
9380     \LWR@ensuredoingapar%
9381     \def\LWR@templink{#1}%
9382     @onelvel@sanitize\LWR@templink%
9383     \LWR@templink%
9384     \endgroup%
9385 }
9386
9387 \newrobustcmd*\{\nolinkurl}{%
9388     \begingroup%
9389     \LWR@linkcatcodes%
9390     \LWR@nolinkurlb%
9391 }

```

\url {⟨URL⟩}

Create a link whose text name is the address of the link.

The `url` package may redefine `\url`, so it is `\let` to `\LWR@urlahere` and also redefined by `lwarp-url`.

```

9392 \DeclareDocumentCommand{\LWR@urlb}{m}{%
9393     \LWR@ensuredoingapar%
9394     \def\LWR@templink{#1}%
9395     @onelvel@sanitize\LWR@templink%
9396     \href{\LWR@templink}{\LWR@templink}%
9397     \endgroup%
9398 }
9399
9400 \newrobustcmd*\{\url}{%
9401     \begingroup%
9402     \LWR@linkcatcodes%
9403     \LWR@urlb%
9404 }

```

\LWR@subinlineimage {⟨alt> tag} {⟨class⟩} {⟨filename⟩} {⟨extension⟩} {⟨CSS style⟩}

Factored from `lateXimage`.

```
9405 \newcommand*{\LWR@subinlineimage}[5]{%
9406     \ifblank{#1}{%
9407         {%
9408             \LWR@htmltag{img \LWR@indentHTML
9409                 src="#3.#4" \LWR@indentHTML
9410                 alt="#3" \LWR@indentHTML
9411                 style="#5" \LWR@indentHTML
9412                 class="#2" \LWR@orignewline
9413             }%
9414         }%
9415     {%
9416         \LWR@htmltag{img \LWR@indentHTML
9417                 src="#3.#4" \LWR@indentHTML
9418                 alt="#1" \LWR@indentHTML
9419                 style="#5" \LWR@indentHTML
9420                 class="#2" \LWR@orignewline
9421             }%
9422         }%
9423     }%
9424 \end{warpHTML}
```

Table 13: Float data structures

For each <type> of float (figure, table, etc.) there exists the following:

counter <type>: A counter called <type>, such as figure, table.

\<type>name: Name. \figurename prints “Figure”, etc.

\ext@<type>: File extension. \ext@figure prints “lof”, etc.

\fps@<type>: Placement.

\the<type>: Number. \thetable prints the number of the table, etc.

\p@<type>: Parent’s number. Prints the number of the [within] figure, etc.

\fnum@<type>: Prints the figure number for the caption.

\<type>name \the<type>, “Figure 123”.

\<type>: Starts the float environment. \figure or \begin{figure}

\end<type>: Ends the float environment. \endfigure or \end{figure}

\tf@<ext>: The L^AT_EX file identifier for the output file.

LWR@have<type>: A boolean remembering whether a \listof was requested for a float of this type.

File with extension lo<f,t,a-z>: An output file containing the commands to build the \listof<type> “table-of-contents” structure.

Cross-referencing names: For cleveref’s \cref and related, \crefname and \Crefname assign human-readable names for references to this float type.

74 Floats

Floats are supported, although partially through emulation.

Table 13 shows the data structure associated with each <type> of float.

\@makecaption is redefined to print the float number and caption text, separated by \CaptionSeparator, which works with the babel package to adjust the caption separator according to the language. French, for example, uses an en-dash instead of a colon: “Figure 123 – Caption text”.

74.1 Float environment

for HTML output: 9425 \begin{warpHTML}

\LWR@floatbegin {\<type>} [<placement>] Begins a \newfloat environment.

```

9426 \NewDocumentCommand{\LWR@floatbegin}{m o}{%
9427   \ifbool{FormatWP}{\newline}{}
9428   \LWR@stoppars%

```

There is a new float, so increment the unique float counter:

```

9429   \addtocounter{\LWR@thisautoid}{1}%
9430   \booltrue{\LWR@freezethisautoid}%
9431   \begingroup%

```

Settings while inside the environment:

```

9432   \LWR@print@raggedright%

```

Open an **HTML** figure tag. The figure is assigned a **class** equal to its type, and another class according to the **float** package style, if used. Note that **\csuse** returns an empty string if **\LWR@floatstyle<type>** is not defined.

```

9433   \LWR@htmlltag{%
9434     figure id="\LWR@print@mbox{autoid-\arabic{\LWR@thisautoid}}" % space
9435     class="#1 \nameuse{\LWR@floatstyle@#1}"%
9436   }%
9437   \ifbool{FormatWP}{%
9438     \LWR@orignewline%
9439     \LWR@BlockClassWP{}{}{wp#1}%
9440   }{%

```

Update the caption type:

```

9441   \renewcommand*{\@capttype}{\#1}%
9442   \caption@settype{\#1}%

```

Mark the float for a word processor conversion:

```

9443   \LWR@startpars%
9444   \ifboolexpr{bool{FormatWP} and bool{WPMarkFloats}}{%
9445   === begin #1 ===
9446   }{%
9448 }{%

```

Look for **\centering**, etc:

```

9449   \LWR@futurenonspacet\LWR@mynexttoken\LWR@floatalignment%
9450 }

```

For koma-script. The following does not work for tables.

```

9451 \AtBeginDocument{%
9452 %
9453 \@ifpackagelloaded{tocbasic}{%

```

```

9454
9455 \appto\figure@atbegin{%
9456     \LWR@futureonospacelet\LWR@mynexttoken\LWR@floatalignment%
9457 }
9458
9459 }{}% tocbasic
9460
9461 }% AtBeginDocument

```

\@float Support packages which create floats directly.
 \@dblfloat
 9462 \let\@float\LWR@floatbegin
 9463 \let\@dblfloat\LWR@floatbegin

\LWR@floatend Ends a \newfloat environment.

```
9464 \newcommand*\LWR@floatend{%
```

If saw a \centering, finish the center environment:

```
9465 \LWR@endfloatalignment%
```

Mark the float end for a word processor conversion:

```

9466 \ifboolexpr{bool{FormatWP} and bool{WPMarkFloats}}{%
9467
9468 === end ===
9469
9470 }{}%
9471 \LWR@stoppars%

```

Close an HTML figure tag:

```

9472 \ifbool{FormatWP}{\endLWR@BlockClassWP}{}
9473 \LWR@htmlelementend{figure}%
9474 \endgroup%
9475 \boolfalse{\LWR@freezethisautoid}%
9476 \LWR@startpars%
9477 \ifbool{FormatWP}{\newline}{}
9478 }

```

\end@float Support packages which create floats directly.
 \@dblfloat
 9479 \let\end@float\LWR@floatend
 9480 \let\end@dblfloat\LWR@floatend

74.2 Float tracking

Ctr \LWR@thisautoid A sequential counter for all floats and theorems. This is used to identify the float or theorem then reference it from the List of Figures and List of Tables.

```
9481 \newcounter{\LWR@thisautoid}
```

Ctr LWR@thisautoidWP A sequential counter for all word processor conversion <div>s. This is used to convince LIBREOFFICE to form a frame around this element.

```
9482 \newcounter{LWR@thisautoidWP}
```

Bool LWR@freezethisautoid Prevents multiple increments of \LWR@thisautoid inside a float.

```
9483 \newbool{LWR@freezethisautoid}
9484 \boolefalse{LWR@freezethisautoid}
```

\LWR@forcenewautoidanchor Adds a new <autoid> anchor.

```
9485 \newcommand*\{\LWR@forcenewautoidanchor\}{%
9486     \addtocounter{LWR@thisautoid}{1}%
9487     \LWR@htmlltag{a id="\LWR@print@mbox{autoid-\arabic{LWR@thisautoid}}"}%
9488     \LWR@htmlltag{/a}%
9489 }
```

\LWR@newautoidanchor Sometimes adds a new <autoid> anchor.

```
9490 \newcommand*\{\LWR@newautoidanchor\}{%
9491     \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
9492         {}%
9493         {\ifbool{LWR@freezethisautoid}{}{\LWR@forcenewautoidanchor}}%
9494 }
```

\@capttype Remembers which float type is in use.

```
9495 \newcommand*\{@capttype\}{}
```

\LWR@floatalignmentname Set to center, flushleft, or flushright if saw \centering, \raggedright, or \raggedleft.

```
9496 \newcommand*\{\LWR@floatalignmentname\}{}
```

\LWR@floatalignment If sees a \centering, \raggedleft, or \raggedright, creates a center, flushright, or flushleft environment.

```
9497 \newcommand*\{\LWR@floatalignment\}{%
9498     \ifdefstreq{\LWR@mynexttoken}{\centering}{%
9499         \center%
9500         \renewcommand*\{\LWR@floatalignmentname\}{center}%
9501     }{%
9502     \ifdefstreq{\LWR@mynexttoken}{\raggedright}{%
9503         \flushleft%
9504         \renewcommand*\{\LWR@floatalignmentname\}{flushleft}%
9505     }{%
9506     \ifdefstreq{\LWR@mynexttoken}{\raggedleft}{%
9507         \flushright%
9508         \renewcommand*\{\LWR@floatalignmentname\}{flushright}%
9509     }{%
9510 }}
```

\LWR@endfloatalignment Closes an environment from \LWR@floatalignment.

```
9511 \newcommand*\LWR@endfloatalignment{%
9512     \ifdefvoid{\LWR@floatalignmentname}{%
9513         {}%
9514         {\@nameuse{end\LWR@floatalignmentname}}%
9515     \renewcommand*\LWR@floatalignmentname{}%
9516 }
```

74.3 Caption inside a float environment

\CaptionSeparator How to separate the float number and the caption text.

```
9517 \AtBeginDocument{\providecommand*\CaptionSeparator{:\text{~}}}
```

\@makecaption {\langle name and num\rangle} {\langle text\rangle}

Prints the float type and number, the caption separator, and the caption text.

```
9518 \AtBeginDocument{\renewcommand{\@makecaption}[2]{%
9519     \LWR@traceinfo{@makecaption}%
9520     \LWR@isolate{\#1}\CaptionSeparator\LWR@isolate{\#2}%
9521     \LWR@traceinfo{@makecaption: done}%
9522 }%
9523 }
```

74.4 Caption and LOF linking and tracking

When a new HTML file is marked in the L^AT_EX PDF file, the L^AT_EX page number at that point is stored in LWR@latestautopage, (and the associated filename is remembered by the special L^AT_EX labels). This page number is used to generate an autopage HTML <id> in the HTML output at the start of the new HTML file. Meanwhile, there is a float counter used to generate an HTML autoid <id> at the start of the float itself in the HTML file. The autopage and autoid values to use for each float are written to the .lof, etc. files just before each float's entry. These values are used by \l@figure, etc. to create the HTML links in the List of Figures, etc.

Ctr LWR@nextautoid Tracks autoid for floats. Tracks autopage for floats.

Ctr LWR@nextautopage These are updated per float as the .lof, .lot file is read.

```
9524 \newcounter{LWR@nextautoid}
9525 \newcounter{LWR@nextautopage}
```

\LWRsetnextfloat {\langle autopage\rangle} {\langle float autoid\rangle}

File *_html.lof This is written to the *_html.lof or *_html.lot file just before each float's usual entry. The autopage and the float's autoid are remembered for \l@figure to use when creating the HTML links.

```

9526 \newcommand*{\LWRsetnextfloat}[2]{%
9527     \setcounter{LWR@nextautopage}{#1}%
9528     \setcounter{LWR@nextautoid}{#2}%
9529 }

```

Ctr `LWR@latestautopage` Updated each time a new `HTML` file is begun. `\LWRsetnextfloat` is written with this and the autoid by the modified `\addcontentsline` just before each float's entry.

```

9530 \newcounter{LWR@latestautopage}
9531 \setcounter{LWR@latestautopage}{1}

```

Env `LWR@figcaption` An `HTML` `<figcaption>` is not allowed in places where `LATEX` does allow a figure caption, such as inside a `longtable` where the tabular has already started, or inside a `center` environment. Therefore, a `<div>` of class `figurecaption` is used instead.

```

9532 \newenvironment*{LWR@figcaption}{%
9533     \ifbool{FormatWP}{%
9534         \BlockClass[font-style:italic]{figurecaption}{%
9535             \LWR@print@vspace*\baselineskip}%
9536     }{%
9537         \BlockClass{figurecaption}{%
9538             \baselineskip}%
9539     }%
9540 }%
9541 {\endBlockClass}

```

`\LWR@HTML@caption@begin {<type>}`

Low-level code to create `HTML` tags for captions.

The print versions are from the `caption` package.

```

9542 \newcommand*{\LWR@HTML@caption@begin}[1]{%
9543 {%
9544     \LWR@traceinfo{\LWR@HTML@caption@begin}%
}

```

Keep `par` and `minipage` changes local:

```

9545 \begingroup%

```

No need for a `minipage` or `\parbox` inside the caption:

```

9546 \RenewDocumentEnvironment{minipage}{O{t} o O{t} m}{}{%
9547 \RenewDocumentCommand{\parbox}{O{t} O{} O{t} m +m}##5}%

```

Enclose the original caption code inside an `HTML` tag:

```

9548 \LWR@figcaption%
9549 \LWR@traceinfo{\LWR@HTML@caption@begin: about to LWR@origcaption@begin}%
9550 \LWR@print@caption@begin{#1}%
9551 \LWR@traceinfo{\LWR@HTML@caption@begin: done}%
9552 }

```

\LWR@HTML@caption@end Low-level patches to create HTML tags for captions.

```
9553 \newcommand*{\LWR@HTML@caption@end}{%
9554 {%
9555   \LWR@traceinfo{\LWR@HTML@caption@end}%
9556   \LWR@print@caption@end%
```

Closing tag:

```
9557   \endLWR@figcaption%
9558   \endgroup%
9559   % \leavevmode% avoid bad space factor (0) error
9560   \LWR@traceinfo{\LWR@HTML@caption@end: done}%
9561 }
```

\caption@begin Low-level patches to create HTML tags for captions. These are assigned \AtBeginDocument
 \caption@end so that other packages which modify captions will have already been loaded before
 saving the print-mode version.

```
9562 \AtBeginDocument{%
9563 \LWR@formatted{caption@begin}%
9564 \LWR@formatted{caption@end}%
9565 }
```

\captionlistentry Tracks the float number for this caption used outside a float. Patched to create an
 HTML anchor.

```
9566 \let\LWR@origcaptionlistentry\captionlistentry
9567
9568 \renewcommand*{\captionlistentry}{%
9569   \LWR@ensuredoingapar%
9570   \LWR@origcaptionlistentry%
9571 }

9572 \def\LTcaptionlistentry{%
9573   \LWR@ensuredoingapar%
9574   \LWR@forcenewlineautoidanchor%
9575   \bgroup
9576   \@ifstar{\egroup\LT@captionlistentry}{%
9577     {\egroup\LT@captionlistentry}%
9578 }%
9579
9580 \def\LT@captionlistentry#1{%
9581   \caption@listentry@\firstoftwo[\LTcaptype]{#1}%
9582 }%
```

\addcontentsline Patched to write the autopage and autoid before each float's entry. No changes if
 writing .toc For a theorem, automatically defines \ext@<type> as needed, to mimic
 and reuse the float mechanism.

```

9583 \let\LWR@origaddcontentsline\addcontentsline
9584
9585 \renewcommand*\{\addcontentsline}{3}{%
9586     \ifstrequal{\#1}{toc}{% not TOC
9587         \ifnumcomp{\value{\LWR@lateximagedepth}}{0}{%
9588             {}%
9589             {\LWR@newautoianchor}%
9590         \ifcsvvoid{ext@#2}{\csdef{ext@#2}{\#1}}{}%
9591         \addtocontents{\@nameuse{ext@#2}}{%
9592             \protect\LWRsetnextfloat%
9593             {\arabic{\LWR@latestautopage}}%
9594             {\arabic{\LWR@thisautoid}}%
9595             }%
9596         }% not TOC
9597         \LWR@origaddcontentsline{\#1}{\#2}{\#3}%
9598 }

```

Pkg capt-of Either package provides `\captionof`, which is later patched at the beginning of the document.

`\captionof` Patched to handle paragraph tags.

```

9599 \AtBeginDocument{
9600
9601 \let\LWR@origcaptionof\captionof
9602
9603 \renewcommand*\{\captionof}{%
9604     \LWR@stoppars%
9605     \LWR@origcaptionof%
9606 }
9607
9608 }% AtBeginDocument

9609 \end{warpHTML}

```

75 Table of Contents, LOF, LOT

This section controls the generation of the TOC, LOF, and LOT.

The `.toc`, `.lof`, and `.lot` files are named by the source code `\jobname`.

In HTML, the printed tables are placed inside a `<div>` of class `toc`, `lof`, or `lot`.

A “`sitetoc`” is provided which prints a subset of the TOC on the side of each page other than the homepage.

The regular L^AT_EX infrastructure is used for toc, along with some patches to generate HTML output.

for HTML output: 9610 \begin{warpHTML}

75.1 Reading and printing the toc

\LWR@myshorttoc {\langle toc/lof/lot/sidetoc\rangle}

Reads in and prints the TOC/LOF/LOT at the current position. While doing so, makes the @ character into a normal letter to allow formatting commands in the section names.

Unlike in regular L^AT_EX, the file is not reset after being read, since the sidetoc may be referred to again in each HTML page.

```
9611 \newcommand*{\LWR@myshorttoc}[1]{%
9612   \LWR@traceinfo{\LWR@myshorttoc: #1}%
9613   \LWR@ensuredoingapar%
```

Only if the file exists:

```
9614 \IfFileExists{\jobname.\#1}{%
9615   \LWR@traceinfo{\LWR@myshorttoc: loading}%
}
```

 Many of the commands in the file will have @ characters in them, so @ must be made a regular letter.

```
9616 \begingroup%
9617 \makeatletter%
```

Disable CJK xpinyin while generating the sidetoc.

```
9618 \LWR@disablepinyin%
```

Read in the TOC file:

```
9619 \@input{\jobname.\#1}%
9620 \endgroup%
9621 }%
9622 {}%
9623 \LWR@traceinfo{\LWR@myshorttoc: done}%
9624 }
```

\LWR@subtableofcontents {\langle toc/lof/lot\rangle} {\langle sectionstarname\rangle}

Places a TOC/LOF/LOT at the current position.

```
9625 \NewDocumentCommand{\LWR@subtableofcontents}{m m}{%
```

Closes previous levels:

```
9626     \@ifundefined{chapter}%
9627         {\LWR@closeprevious{section}}%
9628         {\LWR@closeprevious{chapter}}%
```

Prints any pending footnotes so that they appear above the potentially large TOC:

```
9629     \LWR@printpendingfootnotes%
```

Place the list into its own chapter (if defined) or section:

```
9630     \@ifundefined{chapter}{\section*{\#2}}{\chapter*{\#2}}%
```

Create a new HTML nav containing the TOC/LOF/LOT:

```
9631     \LWR@htmlelementclass{nav}{\#1}%
```

Create the actual list:

```
9632     \LWR@myshorttoc{\#1}%
```

Close the nav:

```
9633     \LWR@htmlelementclassend{nav}{\#1}%
9634 }
```

\@starttoc {*ext*}

Patch \@starttoc to encapsulate the TOC inside HTML tags:

```
9635 \let\LWR@orig@starttoc\@starttoc
9636
9637 \renewcommand{\@starttoc}[1]{
9638     \LWR@htmlelementclass{nav}{\#1}%
9639     \LWR@orig@starttoc{\#1}%
9640     \LWR@htmlelementclassend{nav}{\#1}%
9641 }
```

Bool LWR@copiedsidetoc Used to only copy the TOC file to the sidetoc a single time.

(listings and perhaps other packages would re-use \tableofcontents for their own purposes, causing the sidetoc to be copied more than once, and thus end up empty.)

```
9642 \newbool{LWR@copiedsidetoc}
9643 \boolfalse{LWR@copiedsidetoc}
```

\tableofcontents Patch \tableofcontents, etc. to print footnotes first. **newfloat** uses \listoffigures for all future float types.

```
9644 \AtBeginDocument{
9645
9646 \let\LWR@origtableofcontents\tableofcontents
9647
9648 \renewcommand*\tableofcontents{%
```

Do not print the table of contents if formatting for a word processor, which will presumably auto-generate its own updated table of contents:

```
9649     \ifboolexpr{bool{FormatWP} and bool{WPMarkTOC}}{  
9650         === table of contents ===  
9652     }  
9653     {  
9654 }
```

Copy the .toc file to .sidetoc for printing the sidetoc. The original .toc file is renewed when \tableofcontents is finished.

```
9655     \ifbool{LWR@copiedsidetoc}{}{  
9656         \LWR@copyfile{\jobname.toc}{\jobname.sidetoc}  
9657         \booltrue{LWR@copiedsidetoc}  
9658     }  
9659         \LWR@printpendingfootnotes  
9660         \LWR@origtableofcontents  
9661     }  
9662 }% \tableofcontents  
9663  
9664 }% AtBeginDocument
```

\listoffigures

```
9665 \let\LWR@origlistoffigures\listoffigures  
9666  
9667 \renewcommand*{\listoffigures}{  
9668     \ifboolexpr{bool{FormatWP} and bool{WPMarkLOFT}}{  
9669         === list of figures ===  
9670     }  
9671     {  
9672         \LWR@printpendingfootnotes  
9673         \LWR@origlistoffigures  
9674     }  
9677 }
```

\listoftables

```
9678 \let\LWR@origlistoftables\listoftables  
9679  
9680 \renewcommand*{\listoftables}{  
9681     \ifboolexpr{bool{FormatWP} and bool{WPMarkLOFT}}{  
9682         === list of tables ===  
9683     }  
9684     {  
9685         \LWR@printpendingfootnotes  
9686         \LWR@origlistoftables  
9689     }}
```

```
9690 }
```

75.2 High-level toc commands

\listof {*type*} {*title*}

Emulate the \listof command from the float package (section 248). Used to create lists of custom float types. Also used to redefine the standard L^AT_EX \listoffigures and \listoftables commands.

```
9691 \NewDocumentCommand{\listof}{m +m}{%
9692     \@ifundefined{l@#1}{%
9693         \csdef{l@#1}##1##2{\hypertocfloat{1}{#1}{\@nameuse{ext@#1}}{##1}{##2}}%
9694     }{}%
9695     \LWR@subtableofcontents{\@nameuse{ext@#1}}{#2}%
9696     \expandafter\newwrite\csname tf@\csname ext@#1\endcsname\endcsname%
9697     \immediate\openout \csname tf@\csname ext@#1\endcsname\endcsname\jobname.\@nameuse{ext@#1}\relax%
9698 }
9699 }
```

75.3 Side toc

The “side toc” is a table-of-contents positioned to the side.

It may be renamed by redefining \sidetocname, and may contain paragraphs.

css may be used to format the sidetoc:

CSS related to sidetoc:

div.sidetoccontainer: The entire sidetoc.
div.sidetoctitle: The title.
div.sidetoccontents: The table of contents.

```
9700 \end{warpHTML}
```

for HTML & PRINT: 9701 \begin{warpall}

Ctr SideTOCDepth Controls how deep the side-TOC gets. Use a standard L^AT_EX section level similar to tocdepth. Warn if parts of the website may be inaccessible.

```
9702 \newcounter{SideTOCDepth}
9703 \setcounter{SideTOCDepth}{1}
9704
9705 \AtBeginDocument{%
9706     \ifnumcomp{\value{SideTOCDepth}}{<}{\value{FileDepth}}{%
9707         \PackageWarningNoLine{lwarp}%
9708     }%
```

```

9709           SideTOCDepth is less than FileDepth, \MessageBreak
9710           so some website pages may be inaccessible%
9711       }
9712   }()
9713 }
```

\sidetocname Holds the default name for the sidetoc.

```

9714 \newcommand{\sidetocname}{Contents}
9715 \end{warpall}
```

for HTML output: 9716 \begin{warpHTML}

\LWR@sidetoc Creates the actual side-TOC.

```

9717 \newcommand*{\LWR@sidetoc}{%
9718     \LWR@forcenewpage
9719     \LWR@stoppars
9720 }
```

The entire sidetoc is placed into a nav of class sidetoc.

```

9721     \LWR@htmlelementclass{div}{sidetoccontainer}
9722     \LWR@htmlelementclass{nav}{sidetoc}
9723
9724     \setcounter{tocdepth}{\value{SideTOCDepth}}
9725 }
```

The title is placed into a <div> of class sidetoctitle, and may contain paragraphs.

```

9726     \begin{BlockClass}{sidetoctitle}
9727     \ifcsvvoid{thetitle}{}{\InlineClass{sidetocthetitle}{\thetitle}\par}
9728     \sidetocname
9729     \end{BlockClass}
```

The table of contents is placed into a <div> of class sidetoccontents.

```

9730     \begin{BlockClass}{sidetoccontents}
9731     \LinkHome
9732
9733     \LWR@myshorttoc{sidetoc}
9734     \end{BlockClass}
9735     \LWR@htmlelementclassend{nav}{sidetoc}
9736     \LWR@htmlelementclassend{div}{sidetoccontainer}
9737 }
```

75.4 Low-level toc line formatting

\numberline {<number>}

(Called from each line in the .aux, .lof files.)

Record this section number for further use:

```
9738 \newcommand*{\LWR@numberline}[1]{%
9739     \LWR@sectionnumber{#1}\quad%
9740 }
9741
9742 \LetLtxMacro\numberline\LWR@numberline
```

\LWR@maybetocdata Replaced by **tocdata**. Adds author name.

```
9743 \newcommand*{\LWR@maybetocdata}{}%
```

\hypertoc {<1: depth>} {<2: type>} {<3: name>} {<4: page>}

Called by \l@section, etc. to create a hyperlink to a section.

The autopage label is always created just after the section opens.

#1 is depth

#2 is section, subsection, etc.

#3 the text of the caption

#4 page number

```
9744 \NewDocumentCommand{\hypertoc}{m m +m m}{%
9745     \LWR@traceinfo{hypertoc !#1!#2!#3!#4!}%
```

Respond to **tocdepth**:

```
9746     \ifthenelse{\cnttest{#1}{<=}{\value{tocdepth}}}{%
9747         %
9748             \LWR@startpars%
```

Create an HTML link to <filename>#autosec-(page), with the name, of the given HTML class.

\BaseJobname is added to the label in case **xr** or **xr-hyper** are used.

```
9749             \LWR@subhyperrefclass{%
9750                 \LWR@htmlrefsectionfilename{\BaseJobname-autopage-#4}%
9751                     \LWR@origpound\LWR@print@mbox{autosec-#4}%
9752             }{#3}{toc#2}%
9753
9754             \LWR@maybetocdata%
9755         }%
9756     {}%
9757     \LWR@traceinfo{hypertoc done}%
9758 }
```

ctr lofdepth TOC depth for figures.

```
9759 \@ifclassloaded{memoir}{}{  
9760     \newcounter{lofdepth}  
9761     \setcounter{lofdepth}{1}  
9762 }
```

ctr lotdepth TOC depth for tables.

```
9763 \@ifclassloaded{memoir}{}{  
9764     \newcounter{lotdepth}  
9765     \setcounter{lotdepth}{1}  
9766 }
```

\hypertocfloat {<1: depth>} {<2: type>} {<3: ext of parent>} {<4: caption>} {<5: page>}

#1 is depth

#2 is figure, table, etc.

#3 is lof, lot, of the parent.

#4 the text of the caption

#5 page number

```
9767 \newcommand{\hypertocfloat}[5]{%  
9768     \LWR@startpars%
```

If some float-creation package has not yet defined the float type's lofdepth counter, etc, define it here:

```
9769     \@ifundefined{c@#3depth}{%  
9770         \newcounter{#3depth}%%  
9771         \setcounter{#3depth}{1}%%  
9772     }{}%
```

Respond to lofdepth, etc.:

```
9773     \LWR@traceinfo{hypertocfloat depth is #1 #3depth is \arabic{#3depth}}%  
9774     \ifthenelse{\cnttest{#1}{<=}{\arabic{#3depth}}}{%  
9775         {}%  
9776     \LWR@startpars%
```

Create an HTML link to filename#autoid-(float number), with text of the caption, of the given HTML class.

\BaseJobname is added to the label in case xr or xr-hyper are used.

```
9777             \LWR@subhyperrefclass{}%  
9778             \LWR@htmrefsectionfilename{}%  
9779                 \BaseJobname-autopage-\arabic{\LWR@nextautopage}%
```

```

9780      }%
9781      \LWR@origpound\LWR@print@mbox{autoid-\arabic{LWR@nextautoid}}}}%
9782      {#4}{toc#2}%

9783      \LWR@maybetocdata%

9784      \LWR@stopars%
9785      }%
9786      {}%
9787 }

```

Automatically called by \contentsline:

```
\l@book  {\langle name\rangle} {\langle page\rangle}
```

Uses \DeclareDocumentCommand in case the class does not happen to have a \book.

```
9788 \DeclareDocumentCommand{\l@book}{m m}{\hypertoc{-2}{book}{#1}{#2}}
```

```
\l@part  {\langle name\rangle} {\langle page\rangle}
```

Uses \DeclareDocumentCommand in case the class does not happen to have a \part.

```
9789 \DeclareDocumentCommand{\l@part}{m m}{\hypertoc{-1}{part}{#1}{#2}}
```

```
\l@chapter {\langle name\rangle} {\langle page\rangle}
```

Uses \DeclareDocumentCommand in case the class does not happen to have a \chapter.

```

9790 \@ifundefined{chapter}%
9791 {}%
9792 {%
9793 \DeclareDocumentCommand{\l@chapter}{m m}%
9794   {\hypertoc{0}{chapter}{#1}{#2}}%
9795 }

```

```
\l@section  {\langle name\rangle} {\langle page\rangle}
```

```
9796 \renewcommand{\l@section}[2]{\hypertoc{1}{section}{#1}{#2}}
```

```
\l@subsection {\langle name\rangle} {\langle page\rangle}
```

```
9797 \renewcommand{\l@subsection}[2]{\hypertoc{2}{subsection}{#1}{#2}}
```

```
\l@subsubsection {\langle name\rangle} {\langle page\rangle}
```

```
9798 \renewcommand{\l@subsubsection}[2]{\hypertoc{3}{subsubsection}{#1}{#2}}
```

```
\l@paragraph {\langle name\rangle} {\langle page\rangle}

9799 \renewcommand{\l@paragraph}[2]{\hypertoc{4}{paragraph}{#1}{#2}}
```

```
\l@subparagraph {\langle name\rangle} {\langle page\rangle}

9800 \renewcommand{\l@subparagraph}[2]{\hypertoc{5}{subparagraph}{#1}{#2}}
```

```
\l@figure {\langle name\rangle} {\langle page\rangle}

9801 \renewcommand{\l@figure}[2]{\hypertocfloat{1}{figure}{lof}{#1}{#2}}
```

```
\l@table {\langle name\rangle} {\langle page\rangle}

9802 \renewcommand{\l@table}[2]{\hypertocfloat{1}{table}{lot}{#1}{#2}}
```

```
9803 \end{warpHTML}
```

76 Index and glossary

See:

[http://tex.stackexchange.com/questions/187038/
how-to-mention-section-number-in-index-created-by-imakeidx](http://tex.stackexchange.com/questions/187038/how-to-mention-section-number-in-index-created-by-imakeidx)

Index links are tracked by the counter `LWR@autoindex`. This counter is used to create a label for each index entry, and a reference to this label for each entry in the index listing. This method allows each index entry to link directly to its exact position in the document.

```
for HTML output: 9804 \begin{warpHTML}

9805 \newcounter{LWR@autoindex}
9806 \setcounter{LWR@autoindex}{0}
9807
9808 \newcounter{LWR@autoglossary}
9809 \setcounter{LWR@autoglossary}{0}

Env theindex

9810 \@ifundefined{chapter}
9811   {\newcommand*{\LWR@indexsection}[1]{\section*{#1}}}
9812   {\newcommand*{\LWR@indexsection}[1]{\chapter*{#1}}}
9813
9814
9815 \AtBeginDocument{
9816
9817 \ renewenvironment*{theindex}{%
9818   \LWR@indexsection{\indexname}%
9819   \let\item\LWR@indexitem%
```

```

9820      \let\subitem\LWR@indexsubitem%
9821      \let\subsubitem\LWR@indexsubsubitem%
9822 }{%
9823
9824 }% AtBeginDocument

```

\LWR@indexitem [*index key*] The optional argument is added to support **repeatindex**.

```

9825 \newcommand{\LWR@indexitem}[1][\emptyset]{%
9826
9827     \InlineClass{indexitem}{\LWR@htmlcomment{}#1}%
9828 }

```

\LWR@indexsubitem

```

9829 \newcommand{\LWR@indexsubitem}{%
9830
9831     \InlineClass{indexsubitem}{\LWR@htmlcomment{}}
9832 }

```

\LWR@indexsubsubitem

```

9833 \newcommand{\LWR@indexsubsubitem}{%
9834
9835     \InlineClass{indexsubsubitem}{\LWR@htmlcomment{}}
9836 }

```

\@wrindex {*term*} Redefined to write the **LWR@autoindex** counter instead of page.

```

9837 \def\LWR@wrindex#1{%
9838     \addtocounter{LWR@autoindex}{1}%
9839     \LWR@new@label{LWRindex-\arabic{LWR@autoindex}}%
9840     \protected@write{\indexfile}{}{%
9841         \string\indexentry{#1}{\arabic{LWR@autoindex}}}%
9842     \endgroup%
9843     \esphack%
9844 }
9845
9846 \AtBeginDocument{%
9847 \let\@wrindex\LWR@wrindex
9848 }

```

\@wrglossary {*term*} Redefined to write the **LWR@latestautopage** counter instead of page.

```

9849 \def\@wrglossary#1{%
9850     \addtocounter{LWR@autoglossary}{1}%
9851     \LWR@new@label{LWRglossary-\theLWR@autoglossary}}%
9852     \protected@write{\glossaryfile}{}{%
9853         \string\glossaryentry{#1}{\theLWR@autoglossary}}%
9854     \endgroup%
9855     \esphack%
9856 }

```

```
\LWR@indexnameref {<LWR@autoindex>}
```

Creates a hyperlink based on the given entry's autoindex.

```
9857 \newcommand*{\LWR@indexnameref}[1]{\nameref{LWRindex-\#1}}
```

```
\LWR@doindexentry {<LWR@autoindex, or macros.>}
```

Creates a hyperlink, or handles \see, \textbf{etc}.

```
9858 \newrobustcmd{\LWR@doindexentry}[1]{%
9859     \IfInteger{#1}{%
9860         {\LWR@indexnameref{#1}}%
9861         {#1}%
9862     }}
```

```
\LWR@hyperindexrefnullified Handles macros commonly seen inside an \index entry. Each macro is redefined to
create and format a link to its entry.
```

⚠ **index formatting** To handle additional macros:

```
\appto{\LWR@hyperindexrefnullified}{...}
```

```
9863 \newcommand{\LWR@hyperindexrefnullified}{%
9864     \renewrobustcmd{\emph}[1]{\LWR@HTML@emph{\LWR@doindexentry{\#1}}}%
9865     \renewrobustcmd{\textbf}[1]{\LWR@HTML@textbf{\LWR@doindexentry{\#1}}}%
9866     \renewrobustcmd{\texteb}[1]{\LWR@HTML@texteb{\LWR@doindexentry{\#1}}}%
9867     \renewrobustcmd{\textlg}[1]{\LWR@HTML@textlg{\LWR@doindexentry{\#1}}}%
9868     \renewrobustcmd{\textrm}[1]{\LWR@HTML@textrm{\LWR@doindexentry{\#1}}}%
9869     \renewrobustcmd{\textsf}[1]{\LWR@HTML@textsf{\LWR@doindexentry{\#1}}}%
9870     \renewrobustcmd{\texttt}[1]{\LWR@HTML@texttt{\LWR@doindexentry{\#1}}}%
9871     \renewrobustcmd{\textup}[1]{\LWR@HTML@textup{\LWR@doindexentry{\#1}}}%
9872     \renewrobustcmd{\textsc}[1]{\LWR@HTML@textsc{\LWR@doindexentry{\#1}}}%
9873     \renewrobustcmd{\textulc}[1]{\LWR@HTML@textulc{\LWR@doindexentry{\#1}}}%
9874     \renewrobustcmd{\textsi}[1]{\LWR@HTML@textsi{\LWR@doindexentry{\#1}}}%
9875     \renewrobustcmd{\textit}[1]{\LWR@HTML@textit{\LWR@doindexentry{\#1}}}%
9876     \renewrobustcmd{\textsl}[1]{\LWR@HTML@textsl{\LWR@doindexentry{\#1}}}%
9877 }
```

```
\hyperindexref {<LWR@autoindex>}
```

\hyperindexref{LWR@autoindex} is inserted into *.ind by the `makeindex` style file `lwarf.ist` or the `xindy` style file `lwarf.xdy`.

```
9878 \newcommand{\hyperindexref}[1]{%
```

In long index lines with numerous entries, `makeindex` can insert a newline before the page number, resulting in an extra space before the first digit. If the first character is a space, remove it first.

```
9879 \def\LWR@tempone{#1}%
9880 \IfBeginWith{\LWR@tempone}{ }{%
```

```
9881     \StrGobbleLeft{\LWR@tempone}{1}[\LWR@tempone]%
9882 }{ }%
```

If a numeric entry, create a link. If not numeric, such as \see, use the entry as-is. \emph, \textit, etc. have been redefined above to create and format the entry.

```
9883 \IfInteger{\LWR@tempone}%
9884     {\LWR@indexnameref{\LWR@tempone}}%
9885     {%
9886         \begingroup%
9887         \LWR@hyperindexrefnullified%
9888         #1%
9889         \endgroup%
9890     }%
9891 }%
```

9892 \end{warpHTML}

for PRINT output: A null command for print mode, in case `hyperref` was not used:

```
9893 \begin{warpprint}
9894 \newcommand{\hyperindexref}[1]{#1}
9895 \end{warpprint}
```

for HTML & PRINT: For the `glossaries` package, try to prevent an error where `\glo@name` was not found:

```
9896 \begin{warpall}
9897 \providecommand{\glo@name}{}%
9898 \end{warpall}
```

77 Bibliography presentation

for HTML output: 9899 \begin{warpHTML}

```
\bibliography {\langle filenames\rangle }
```

Modified to use the base jobname instead of the `_html` jobname.

```
9900 \def\bibliography#1{%
9901     \if@filesw
9902     \immediate\write\@auxout{\string\bibdata{#1}}%
9903     \fi
9904 %     \input{\jobname.bbl}% original
9905     \begingroup%
9906     \input{\BaseJobname.bbl}% lwarp
9907     \endgroup%
9908 }%
```

```
@biblabel {\langle text-refnumber\rangle }
```

```
9909 \renewcommand{\@biblabel}[1]{[#1]\quad}
```

Env thebibliography To emphasize document titles in the bibliography, the following redefines \em inside thebibliography to gather everything until the next closing brace, then display these tokens with \textit.

Adapted from embracedef.sty, which is by TAKAYUKI YATO:

<https://gist.github.com/zr-tex8r/b72555e3e7ad2f0a37f1>

```

9910 \AtBeginDocument{
9911
9912 \AtBeginEnvironment{thebibliography}{
9913
9914 \providecommand*\LWR@newem}[1]{\textit{\#1}}
9915
9916 \renewrobustcmd{\em}{%
9917   \begingroup
9918     \gdef\LWR@em@after{\LWR@em@finish\LWR@newem}%
9919     \afterassignment\LWR@em@after
9920     \toks@\bgroup
9921 }
9922
9923 \def\LWR@em@finish#1{%
9924   \xdef\LWR@em@after{\noexpand#1{\the\toks@}}%
9925   \endgroup
9926   \LWR@em@after\egroup
9927 }
9928
9929 }% \AtBeginEnvironment{thebibliography}
9930
9931 }% \AtBeginDocument

9932 \end{warpHTML}
```

78 Restoring original formatting

\LWR@restoreorigformatting Used to temporarily restore the print-mode meaning of a number of formatting, graphics, and symbols-related macros while generating SVG math or a `lateximage`.

Must be used inside a group.

Sets `\LWR@formatting` to print until the end of the group.

A number of packages will `\appto` additional actions to this macro.

Various packages add to this macro using `\appto`.

for HTML output: 9933 `\begin{warpHTML}`

```

9934 \newcommand*\LWR@restoreorigformatting}{%
9935   \LWR@traceinfo{\LWR@restoreorigformatting}%
```

Numerous macros change their print/HTML meaning depending on `\LWR@formatting`:

```
9936 \renewcommand*\{LWR@formatting}{print}%
9937 \linespread{1}%
9938 \let\par\LWR@origpar%
9939 \LWR@select@print@hskip%
9940 \LetLtxMacro\hfil\LWR@orighfil%
9941 \let\hss\LWR@orighss%
9942 \let\llap\LWR@origllap%
9943 \let\rlap\LWR@origrlap%
9944 \let\hfilneg\LWR@orighfilneg%
9945 \let\,\LWR@origcomma% disable HTML short unbreakable space
9946 \let\thinspace\LWR@origthinspace% disable HTML short unbreakable space
9947 \let\negthinspace\LWR@orignegthinspace% disable HTML negative short unbreakable space
9948 \let\textellipsis\LWR@origtextellipsis%
9949 \let\textless\LWR@origtextless%
9950 \let\textgreater\LWR@origtextgreater%
9951 \let\&\LWR@origampersand%
9952 \LetLtxMacro\em\LWR@origem%
9953 \LetLtxMacro\normalfont\LWR@orignormalfont%
9954 \let\sp\LWR@origsp%
9955 \let\sb\LWR@origsb%
9956 \LetLtxMacro\textsuperscript\LWR@origtextsuperscript%
9957 \LetLtxMacro@textsuperscript\LWR@orig@textsuperscript%
9958 \LetLtxMacro\textsubscript\LWR@origtextsubscript%
9959 \LetLtxMacro@textsubscript\LWR@orig@textsubscript%
9960 \LetLtxMacro\underline\LWR@origunderline%
9961 \let~\LWR@origtilde%
9962 \let\enskip\LWR@origenskip%
9963 \let\quad\LWR@origquad%
9964 \let\qquad\LWR@origqquad%
```

\endtabular must be restored to its original, instead of relying on lwarp's \LWR@formatted mechanism:

```
9965 \LetLtxMacro\endtabular\LWR@origendtabular%
9966 \csletcs{\endtabular}{\LWR@origendtabular}%
9967 \LetLtxMacro\noalign\LWR@orignoalign%
9968 \LetLtxMacro\hline\LWR@orighline%
9969 \let\newline\LWR@orignewline%
9970 \LetLtxMacro\includegraphics\LWR@origincludegraphics%
9971 \LetLtxMacro{@ensuredmath}\LWR@origensuredmath%
```

```
9972 \let\math\LWR@orig@math%
9973 \let\endmath\LWR@orig@endmath%
9974 \let\displaymath\LWR@orig@displaymath%
9975 \let\enddisplaymath\LWR@orig@enddisplaymath%
9976 %
9977 \LWR@restoreorigaccents%
9978 \LWR@restoreoriglists%
9979 %
9980 \LWR@FBcancel%
9981 }

9982 \end{warpHTML}
```

79 Math

79.1 Limitations

See [Math](#), section 8.7.

79.2 HTML alt tag names

Redefinable names for the HTML alt tags, for translation according to the reader's native language.

for HTML & PRINT: 9983 \begin{warpall}

\AltTextOpen The opening part of HTML alt tag for an image. The default is a left parenthesis.

Default: (

```
9984 \newcommand*\{\AltTextOpen\}{}()
```

\AltTextClose The closing part of HTML alt tag for an image. The default is a right parenthesis.

Default: (

```
9985 \newcommand*\{\AltTextClose\}{}()
```

\ImageAltText The HTML alt tag for an image.

Default: image

```
9986 \newcommand*\{\ImageAltText\}{image}
```

\MathImageAltText The HTML alt tag for an SVG math image.

Default: "math image"

```
9987 \newcommand*\{\MathImageAltText\}{math image}
```

\LWR@ThisAltText The HTML alt tag for the next image. Cleared after use, and also after each `\lateximage`, `\LWR@subsingle$`, and each use of MATHJAX.

```
9988 \newcommand*\LWR@ThisAltText{}
```

```
\ThisAltText {\langle text\rangle}
```

Assigns the HTML alt tag for the next image generated by `lwarp`, such as a `\lateximage`, `picture`, or SVG math.

```
9989 \newcommand*\ThisAltText[1]{%
9990   \renewcommand{\LWR@ThisAltText}{#1}%
9991 }
```

\PackageDiagramAltText Appended to the `\lateximage` HTML alt tag for the images generated by many packages.

Default: “diagram”

```
9992 \newcommand*\PackageDiagramAltText[1]{diagram}
```

```
9993 \end{warpall}
```

79.3 Inline and display math

for HTML output: 9994 `\begin{warpHTML}`

Ctr `\LWR@externalfilecnt` Counter for the external files which are generated and then referenced from the HTML:

```
9995 \newcounter{\LWR@externalfilecnt}
```

Bool `\LWR@indisplaymathimage` True if processing display math for SVG output. Inside a `\lateximage`, display math is only set to print-mode output if `\LWR@indisplaymathimage` is false. Used to avoid nullifying display math before it has been completed.

```
9996 \newbool{\LWR@indisplaymathimage}
```

Bool `\LWR@xfakebold` True if `\xfakebold` `\setBold` is in use.

```
9997 \newbool{\LWR@xfakebold}
9998 \boolfalse{\LWR@xfakebold}
```

`\LWR@orig@setBold` Redefined by `lwarp-xfakebold`.

```
9999 \newcommand*\LWR@orig@setBold{}
```

`\LWR@orig@unsetBold` Redefined by `lwarp-xfakebold`.

```
10000 \newcommand*\LWR@orig@unsetBold{}
```

\LWR@applyxfakebold Redefined by lwarp-xfakebold.

```
10001 \newcommand*{\LWR@applyxfakebold}{}{}
```

\LWR@setcurrentfont Sets the actual L^AT_EX font to that which was selected for HTML output. Ex: In HTML mode, \bfseries sets \LWR@f@series to “bf”. This sets the PDF output here for use inside a *lateximage*.

```
10002 \newcommand*{\LWR@setcurrentfont}{%
10003   \LWR@traceinfo{Using font family \LWR@f@family}%
10004   \nameuse{\LWR@print@\LWR@f@family family}%
10005   \LWR@traceinfo{Using font series \LWR@f@series}%
10006   \nameuse{\LWR@print@\LWR@f@series series}%
10007   \LWR@traceinfo{Using font shape \LWR@f@shape}%
10008   \nameuse{\LWR@print@\LWR@f@shape shape}%
10009   \LWR@traceinfo{Using font caps shape \LWR@f@shapecaps}%
10010   \nameuse{\LWR@print@\LWR@f@shapecaps shape}%
10011 }
```

\\$ Plain dollar signs appearing in the HTML output may be interpreted by MATHJAX to be math shifts. For a plain text dollar \\$, use an HTML entity to avoid it being interpreted by MATHJAX, unless are inside a *lateximage*, in which case it will not be seen by MATHJAX.

```
10012 \let\LWR@origtextdollar\$
10013
10014 \renewcommand*{\$}{%
10015   \ifnumcomp{\value{\LWR@lateximagedepth}}{0}{}{%
10016     {\LWR@origtextdollar}%
10017     {\HTMLunicode{00024}}%
10018 }}
```

File `lwarp_baseline_marker.png` A marker to be used to help *pdfcrop* identify the inline math baseline and width. If either *graphicx* or *graphics* is loaded, this marker is placed at the lower left and lower right corners of the inline math. *pdfcrop* is then able to identify the width of the image, and also the height of an image such as a horizontal dash which does not otherwise touch the baseline.

File `lwarp_baseline_marker.eps` A marker with alpha or opacity of 0% is not registered by *pdfcrop*, so the marker is a small square block of 1% alpha, which seems to work while still being effectively invisible in the final SVG image.

If *graphicx* is loaded, this marker is sized as a tiny 1 sp square. If *graphics* is loaded, this marker is used at its default size of around .25 pt. If neither *graphics* package is loaded, the marker is replaced by a 10 sp horizontal space, and there is no assistance for determining baseline or width of the inline math image. The best results are obtained when using *graphicx*.

\LWR@addbaselinemarker Places a small marker in an svg inline image. If *graphics* or *graphicx* are loaded, the marker is a mostly transparent image. If neither is loaded, no marker is used.

```
10019 \AtBeginDocument{
```

```
10020
10021 \ifpdf
10022     \newcommand*{\LWR@baselinename}{lwarp_baseline_marker.png}
10023 \else
10024     \ifXeTeX
10025         \newcommand*{\LWR@baselinename}{lwarp_baseline_marker.png}
10026     \else
10027         \newcommand*{\LWR@baselinename}{lwarp_baseline_marker.eps}
10028     \fi
10029 \fi
10030
10031 \IfFileExists{\LWR@baselinename}%
10032 {
10033     \@ifpackageloaded{graphicx}{%
10034         \newcommand*{\LWR@addbaselinemarker}{%
10035             \LWR@originincludegraphics{\LWR@baselinename}%
10036         }%
10037     }%
10038     \@ifpackageloaded{graphics}{%
10039         \newcommand*{\LWR@addbaselinemarker}{%
10040             \LWR@originincludegraphics{\LWR@baselinename}%
10041         }%
10042     }%
10043     \newcommand*{\LWR@addbaselinemarker}{%
10044         \global\booltrue{\LWR@warnbaselinemarker}%
10045     }%
10046     \AtEndDocument{%
10047         \ifbool{\LWR@warnbaselinemarker}{%
10048             \PackageWarningNoLine{lwarp}{%
10049                 Load graphicx or graphics for improved\MessageBreak
10050                 SVG math sizing and baselines%
10051             }%
10052         }{}%
10053     }%
10054 }%
10055 }%
10056 }% lwarp_baseline_marker.png or .eps is not present
10057 \newcommand*{\LWR@addbaselinemarker}{%
10058     \global\booltrue{\LWR@warnbaselinemarker}%
10059 }%
10060 \AtEndDocument{%
10061     \ifbool{\LWR@warnbaselinemarker}{%
10062         \PackageWarningNoLine{lwarp}{%
10063             File \LWR@baselinename\space is not installed\MessageBreak
10064             alongside the lwarp-*.sty files, so\MessageBreak
10065             SVG math sizing and baselines may not be accurate}%
10066     }{}%
10067 }%
10068 }
10069
10070 }% AtBeginDocument
```

Bool LWR@warnbaselinemarker True if the math baseline marker was ever called for, but **graphics** or **graphicx** were not loaded.

```
10071 \newbool{LWR@warnbaselinemarker}
10072 \boolfalse{LWR@warnbaselinemarker}
```

Bool LWR@unknownmathsize If *Tikz* or other objects are used inside math mode, the resulting image may exceed the *TeX* box, resulting in an incorrect measurement of the size of the resulting image. If this is so, the *HTML* styles for image size and depth will be neutralized.

```
10073 \newbool{LWR@unknownmathsize}
```

\LWR@singledollarmeasure {*math expression*}

Measures the size of the image of the math expression.

(In some circumstances *SVG* math is used even if *MATHJAX* is preferred.)

SVG math: \LWR@origensuredmath is part of argument #4.

SVG math \ensuremath: \LWR@origensuredmath is part of argument #4.

SVG dynamic math: \LWR@origensuredmath is part of argument #4.

Mathjax: Argument #4 is the contents of the math expression without \LWR@origensuredmath. This case is handled above.

Mathjax \ensuremath: \LWR@origensuredmath is part of argument #4.

Mathjax dynamic math: Argument #4 is the contents of the math expression without \LWR@origensuredmath, so \LWR@origensuredmath is added below.

\ifmmode: Included “just in case”.

Factored from \LWR@subsingledollarsvg.

```
10074 \newcommand*{\LWR@singledollarmeasure}[1]{%
10075   \begingroup%
```

Temporarily disable formatting while measuring the image parameters:

```
10076   \LWR@restoreorigformatting%
10077   \RenewDocumentEnvironment{lateximage}{s o s o o}{}{}% inside group
10078   \LWR@print@normalsize%
```

Temporarily set font for the *HTML PDF* output:

```
10079   \LWR@setcurrentfont%
```

lateximagedepth must be nested to avoid generating paragraph tags. *AMS* math modifies the \text macro such that \addtocounter does not always occur as expected. Lower-level code is used instead.

```
10080   \global\advance\c@LWR@lateximagedepth 1\relax%
```

Typeset the math in a box. While doing so, some macros or environments may set `\LWR@unknownmathsize`, in which case this will be used to cancel the HTML styles being generated here.

```

10081  \boolfalse{\LWR@unknownmathsize}%
10082  \ifmmode%
10083      \global\sbox{\LWR@singledollarbox}{#1}%
10084  \else%
10085      \ifbool{\LWR@dynamicmath}{%
10086          \ifbool{\mathjax}{%
10087              \global\sbox{\LWR@singledollarbox}%
10088                  {\LWR@origensuredmath{#1}}%
10089          }{%
10090              \global\sbox{\LWR@singledollarbox}{#1}%
10091          }%
10092      }{%
10093          \global\sbox{\LWR@singledollarbox}{#1}%
10094      }%
10095  \fi%
```

Add a small and almost transparent marker at the depth of the image.

A math minus sign has the same depth as a plus, even though it does not draw anything below the baseline. This means that `pdfcrop` would crop the image without depth. The marker below the baseline is seen by `pdfcrop` and preserves the depth.

```

10096  \global\sbox{\LWR@singledollarbox}{%
10097      \usebox{\LWR@singledollarbox}%
10098      \raisebox{-\dp\LWR@singledollarbox}{%
10099          \LWR@addbaselinemarker}%
10100      }%
10101 }
```

More low-level code to undo the counter change.

```
10102  \global\advance\c@LWR@lateximagedepth -1\relax% Due to AmS \text macro.
```

Measure the depth:

```

10103  \setlength{\LWR@singledollardepth}{%
10104      \LateximageFontSize\dp\LWR@singledollarbox}%
10105 }
```

Make the length a global change:

```
10106  \global\lWR@singledollardepth=\LWR@singledollardepth%
```

Likewise for width:

```

10107  \setlength{\LWR@singledollarwidth}{%
10108      \LateximageFontSize\wd\LWR@singledollarbox}%
10109 }
10110 \global\lWR@singledollarwidth=\LWR@singledollarwidth%
```

Likewise for total height:

```

10111 \setlength{\LWR@singledollarheight}{%
10112     \LateximageFontSize\ht\LWR@singledollarbox%
10113 }%
10114 \addtolength{\LWR@singledollarheight}{%
10115     \LateximageFontSize\dp\LWR@singledollarbox%
10116 }%
10117 \global\LWR@singledollarheight=\LWR@singledollarheight%

10118 \endgroup%
10119 }

```

\LWR@subsingledollarsvg * {*2: alt text*} {*3: add'l hashing*} {*4: math expression*}

For inline math. Uses SVG math. The image is measured and adjusted to the baseline of the HTML output, and placed inside a `lateximage`.

(In some circumstances SVG math is used even if MATHJAX is preferred.)

Factored from \LWR@subsingleollar.

```
10120 \newcommand*{\LWR@subsingledollarsvg}[4]{%
```

Measure the depth, width, and height of the math image:

```
10121 \LWR@singledollarmeasure{#4}%
```

Set a style for the the height or width. The `em` unit is used so that the math scales according to the user's selected font size.

Start with the greater of the width or the height, biased towards the width:

```

10122 \ifdimgreater{\LWR@singledollarwidth}{.7\LWR@singledollarheight}{%
10123     \def\LWR@singledollarstyle{%
10124         width:\LWR@convertto{em}{\the\LWR@singledollarwidth} em%
10125     }%
10126 }{%
10127     \def\LWR@singledollarstyle{%
10128         height:\LWR@convertto{em}{\the\LWR@singledollarheight} em%
10129     }%
10130 }%

```

If a very narrow width, use the height.

```

10131 \ifdimless{\LWR@singledollarwidth}{.2em}{%
10132 }{%
10133     \def\LWR@singledollarstyle{%
10134         height:\LWR@convertto{em}{\the\LWR@singledollarheight} em%
10135     }%
10136 }%
10137 }%

```

If very wide and short, use the width:

```
10138 \ifdimless{\LWR@singledollarheight}{.2em}%
10139 {%
10140     \def\LWR@singledollarstyle{%
10141         width:\LWR@convertto{em}{\the\LWR@singledollarwidth} em%
10142     }%
10143 }%
10144 {}%
```

If there is significant text depth, add the depth to the style.

```
10145 \ifdimgreater{\LWR@singledollardepth}{0.05ex}%
10146     \def\LWR@singledollardepthstyle{%
10147         \; % extra space
10148         \LWR@print@mbox{%
10149             vertical-align:-\LWR@convertto{em}{\the\LWR@singledollardepth} em%
10150         } % extra space
10151     }%
10152 }{%
10153     \def\LWR@singledollardepthstyle{}%
10154 }%
```

If using certain Tikz actions inside math, the resulting image may exceed the TEX boundaries, so the HTML size styles may be incorrect, and must be neutralized.

```
10155 \ifbool{\LWR@unknownmathsize}{%
10156     \def\LWR@singledollarstyle{}%
10157     \def\LWR@singledollardepthstyle{}%
10158 }{}
```

Create the `lateximage` using the alternate tag and the computed size and depth. The star causes `lateximage` to use an MD5 hash as the filename. When hashing, also include the current font and color in the hash.

```
10159 \ifbool{\LWR@dynamicmath}{%
10160     \LWR@traceinfo{subsingledollar: dynamic}%
10161     \begin{lateximage}% no hashing
10162         [\MathImageAltText]%
10163         []% no add'l hashing
10164         [\LWR@singledollarstyle \LWR@singledollardepthstyle]%
10165     }{%
10166         \LWR@traceinfo{subsingledollar: static}%
10167         \IfValueTF{#1}{%
10168             \LWR@findcurrenttextcolor% sets \LWR@tempcolor
10169         }{}}
```

Support for `xfakebold`:

```
10169 \ifbool{\LWR@xfakebold}{%
10170     {\def\LWR@tempone{Y}}%
10171     {\def\LWR@tempone{N}}%
10172     \begin{lateximage}*\% use hashing
10173         [#2]%
10174     }
```

```

10174      *% do not add open/closing braces
10175      [% addl' hashing
10176          #3%
10177          FM\LWR@f@family%
10178          SR\LWR@f@series%
10179          SH\LWR@f@shape%
10180          SHC\LWR@f@shapecaps%
10181          CL\LWR@tempcolor%
10182          FB\LWR@tempone% xfakebold
10183      ]%
10184      [\LWR@singledollarstyle \LWR@singledollardepthstyle]%
10185      }% #1 False
10186          \begin{lateximage}%
10187              no hashing
10188              [#2]%
10189          []%
10190          [\LWR@singledollarstyle \LWR@singledollardepthstyle]%
10191      }%
10191      }% not dynamic math

```

Place small and almost transparent markers on the baseline at the left and right edges of the image. These markers are seen by *pdfcrop*, and force vertically-centered objects such as a dash to be raised off the baseline in the cropped image, and also force the total width and left/right margins to be correct. (Except that in some fonts a character may exceed the bounding box, and thus may appear wider than expected when converted to an image.)

```
10192      \LWR@addbaselinemarker%
```

Support for *xfakebold*:

```
10193      \LWR@applyxfakebold%
```

Typeset the contents:

```
10194      \usebox{\LWR@singledollarbox}%
```

The closing baseline marker:

```
10195      \LWR@addbaselinemarker%
```

```

10196      \end{lateximage}%
10197 %
10198 }
```

```
\LWR@subsingledollar * {\langle 2: alt text \rangle} {\langle 3: add'l hashing \rangle} {\langle 4: math expression \rangle}
```

For inline math. Uses MathJax, or for SVG math the image is measured and adjusted to the baseline of the HTML output, and placed inside a *lateximage*.

SVG math: `\LWR@origensuredmath` is part of argument #4.

SVG math \ensuremath: `\LWR@origensuredmath` is part of argument #4.

SVG dynamic math: `\LWR@origensuredmath` is part of argument #4.

Mathjax: Argument #4 is the contents of the math expression without `\LWR@origensuredmath`. This case is handled above.

Mathjax \ensuremath: `\LWR@origensuredmath` is part of argument #4.

Mathjax dynamic math: Argument #4 is the contents of the math expression without `\LWR@origensuredmath`, so `\LWR@origensuredmath` is added below.

image filename hashing If starred, a hashed filename is used. If so, the hash is based on the `alt` tag and also the additional hashing argument.

This may be used to provide an expression with a simple `alt` tag but also enough additional information to provide a unique hash.

An example is when the expression is a complicated TeX expression, which would not copy/paste well. A simplified tag may be used, while the complicated expression is duplicated in the additional hashing argument.

Another example is when the expression is simple, but the image depends on options. These options may be decoded into text form and included in the additional hashing argument in order to make the hash unique according to the set of options, even if the simple `alt` tag is still the same.

```

10199 \newlength{\LWR@singledollarwidth}
10200 \newlength{\LWR@singledollarheight}
10201 \newlength{\LWR@singledollardepth}
10202
10203 \newsavebox{\LWR@singledollarbox}
10204
10205 \NewDocumentCommand{\LWR@singledollar}{s m m m}{%
10206   \LWR@traceinfo{\LWR@singledollar}%
10207   \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{%
10208     \%%
10209     \LWR@traceinfo{\LWR@singledollar: already in a lateximage}%
10210     #4% contents
10211   }%
10212   \% not in a lateximage
10213   \begingroup%

```

Support for `xfakebold`:

```
10214   \LWR@applyxfakebold%
```

MathJax cannot parse the often complicated TeX expressions which appear in the various uses of `\ensuredmath`. `\ensuremath` forces the `alt` tag to “`(math image)`”, as translated according to `\MathImageAltText`. If this is the case, force the use of a `lateximage` even if MathJax. Likewise for `siunitx` if `parse-numbers=false`.

If MathJax, or if formatting math for a word processor, and not `\ensuredmath`, and not a dynamic math expression, print the math expression:

```

10215      \ifboolexpr{%
10216          (
10217              bool{mathjax} or
10218                  ( bool{FormatWP} and bool{WPMarkMath} )
10219          ) and
10220          ( not test {
10221              \ifstrequal {#2}{} from \ensuremath
10222                  {\AltTextOpen\MathImageAltText\AltTextClose}
10223          }
10224      ) and
10225          ( not bool{LWR@dynamicmath} )
10226      }%

```

For MATHJAX, print the math between `\(` and `\)`:

```

10227      {%
10228          \LWR@traceinfo{\LWR@subsingledollar: Mathjax}%
10229      {%
10230          \textbackslash(%
10231          \LWR@HTMLsanitize{#4}%
10232          \textbackslash)%
10233      }%
10234  }% mathjax

```

For SVG, print the math inside a `\teximage`, with an `<alt>` tag of the L^AT_EX code, and a css style to control the baseline adjustment.

```

10235      {%
10236          \LWR@traceinfo{%
10237              LWR@subsingledollar: NOT mathjax, or is ensuremath, or is dynamic%
10238          }%
10239          \LWR@subsingledollarsvg{#1}{#2}{#3}{#4}%
10240      }% not mathjax
10241      \endgroup%
10242  }% not in a \teximage

```

Clear the single-use alt text:

```

10243  \gdef\LWR@ThisAltText{}%
10244  \LWR@traceinfo{\LWR@subsingledollar: done}%
10245 }

10246 \LetLtxMacro{\LWR@origdollar$}
10247 \LetLtxMacro{\LWR@secondorigdollar$}{% balance for editor syntax highlighting

10248 \LetLtxMacro{\LWR@origopenparen}{(
10249 \LetLtxMacro{\LWR@origcloseparen}{)}
10250 \LetLtxMacro{\LWR@origopenbracket}{[
10251 \LetLtxMacro{\LWR@origclosebracket}{]}

$ Redefine the dollar sign to place math inside a \teximage, or use MATHJAX:
$$
10252 \begingroup
10253 \catcode`\$=\active%

```

```
10254 \protected\gdef${\@ifnextchar$\LWR@doubledollar\LWR@singledollar}%
```

Used by `chemformula` to escape single-dollar math:

```
10255 \protected\gdef\LWR@newsingledollar{\@ifnextchar$\LWR@doubledollar\LWR@singledollar}%
```

`\LWR@doubledollar` Redefine the double dollar sign to place math inside a `lateximage`, or use `MATHJAX`:

```
10256 \protected\gdef\LWR@doubledollar$#1$${%
```

If `MATHJAX` or formatting for a word processor, print the `LATEX` expression:

```
10257 \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }{%
```

For `MATHJAX`, print the math between `\[` and `\]`:

```
10258 {  
10259     \textbackslash[%  
10260     \LWR@HTMLsanitize{\#1}%  
10261     \textbackslash]  
10262 }% mathjax  
10263  
10264 }% mathjax
```

For SVG, print the math inside a `lateximage`, with an `<alt>` tag of the `LATEX` code:

```
10265 {%
10266     \begin{BlockClass}{displaymath}%
10267     \LWR@newautoidanchor%
10268     \booltrue{\LWR@indisplaymathimage}%
10269     \begin{lateximage}%
10270     [%  
10271         \textbackslash{} % extra space
10272         \LWR@HTMLsanitize{\#1} % extra space
10273         \textbackslash{}%
10274     ]%
10275     *% do not add open/closing braces
```

Support for `xfakebold`:

```
10276     \LWR@applyxfakebold%
```

```
10277     \LWR@origdollar\LWR@origdollar#1\LWR@origdollar\LWR@origdollar%
10278     \end{lateximage}%
10279     \end{BlockClass}%
10280 }% not mathjax
```

Clear the single-use alt text:

```
10281 \gdef\LWR@ThisAltText{}%
10282 }%
```

```
\LWR@singledollar {⟨alt text⟩} {⟨math expression⟩}

10283 \protected\gdef\LWR@singledollar#1{%
10284 \ifbool{mathjax}{%
10285   \LWR@subsingledollar*%
10286   {%
10287     \textbackslash( %
10288     \LWR@HTMLsanitize{#1} % extra space
10289     \textbackslash)%%
10290   }%
10291   {singledollar}% add'l hashing
10292   {#1}% contents
10293 }{%
10294   \LWR@subsingledollar*%
10295   {%
10296     \textbackslash( %
10297     \LWR@HTMLsanitize{#1} % extra space
10298     \textbackslash)%%
10299   }%
10300   {singledollar}% add'l hashing
10301   {\LWR@origensuredmath{#1}}% contents
10302 }{%
10303 \gdef\LWR@ThisAltText{}%
```

Clear the single-use alt text:

```
10303 \gdef\LWR@ThisAltText{}%
10304 }
```

\(Redefine to the above dollar macros.

```
\[
10305 \AtBeginDocument{
10306 \protected\gdef\(#1\){##1$}
10307 \protected\gdef\[#1]{##1$$}
10308 }
10309
10310 \endgroup

10311 \AtBeginDocument{
10312 \LetLtxMacro{\LWR@openbracketnormal}{[}
10313 \LetLtxMacro{\LWR@closebracketnormal}{]}
10314 }
```

\@ensuredmath {⟨expression⟩}

If MathJax, a `\teximage` is used, since `\ensuremath` is often used for complex TEX expressions which MathJax may not render. If SVG math, a hashed file is used with a simple alt tag, but additional hashing provided by the contents.

```
10315 \LetLtxMacro{\LWR@origensuredmath}{\ensuredmath}
10316
10317 \renewcommand{\@ensuredmath}[1]{%
10318   \ifbool{mathjax}{%
10319     \LWR@subsingledollar*{\AltTextOpen\MathImageAltText\AltTextClose}}%
```

```

10320      {%
10321          \protect\LWR@HTMLsanitize{\detokenize\expandafter{\#1}}%
10322      }%
10323      {%
10324          \relax%
10325          \LWR@origensuredmath{\#1}%
10326      }%
10327  }% SVG math

```

If already inside a `lateximage` in math mode, continue as-is.

```

10328      \ifmmode%
10329          \LWR@origensuredmath{\#1}%
10330      \else%

```

Create an inline math `lateximage` with a simple `alt` tag and additional hashing according to the contents.

```

10331          \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}%
10332              {\LWR@origensuredmath{\#1}}%
10333          {%
10334              \LWR@subsingle-dollar*%
10335              {\AltTextOpen\MathImageAltText\AltTextClose}%
10336              {\protect\LWR@HTMLsanitize{\detokenize\expandafter{\#1}}}%
10337              {\LWR@origensuredmath{\#1}}%
10338          }%
10339      \fi%
10340  }%

```

Clear the single-use `alt` text:

```

10341      \gdef\LWR@ThisAltText{}%
10342 }

```

Remember then remove the old `math` and `displaymath` environments:

```

10343 \let\LWR@orig@math\math
10344 \let\LWR@orig@endmath\endmath
10345 \let\LWR@orig@displaymath\displaymath
10346 \let\LWR@orig@enddisplaymath\enddisplaymath
10347
10348 \let\math\relax
10349 \let\endmath\relax
10350 \let\displaymath\relax
10351 \let\enddisplaymath\relax

```

Env `math` Set math mode then typeset the body of what was between the begin/end. See the `environ` package for `\BODY`.

```

10352 \NewEnviron{math}{\expandafter(\BODY)}

```

Env `LWR@displaymathnormal` Set math mode then typeset the body of what was between the begin/end. See the `environ` package for `\BODY`.

```
10353 \NewEnviron{LWR@displaymathnormal}{\expandafter[\BODY]\@ignoretrue}
```

Set the default displaymath to the normal version:

```
10354 \LetLtxMacro[\LWR@openbracketnormal%
10355 \LetLtxMacro]\LWR@closebracketnormal%
10356 \LetLtxMacro\displaymath\LWR@displaymathnormal%
10357 \LetLtxMacro\enddisplaymath\endLWR@displaymathnormal%
```

Env `LWR@displaymathother` A version of `displaymath` which can handle complicated objects, but does not supply MATHJAX or HTML alt tags.

```
10358 \newenvironment{LWR@displaymathother}%
10359 {%
10360     \begin{BlockClass}{displaymath}%
10361     \LWR@newautoidanchor%
10362     \booltrue{\LWR@indisplaymathimage}%
10363     \begin{lateximage}%
10364     [\MathImageAltText]%
10365     \LWR@origdollar\LWR@origdollar%
10366 }%
10367 {%
10368     \LWR@origdollar\LWR@origdollar%
10369     \end{lateximage}%
10370     \end{BlockClass}%
10371 }
```

Env `LWR@equationother` A version of `displaymath` which can handle complicated objects, but does not supply MATHJAX or HTML alt tags.

```
10372 \newenvironment{LWR@equationother}%
10373 {%
10374     \begin{BlockClass}{displaymathnumbered}%
10375     \LWR@newautoidanchor%
10376     \booltrue{\LWR@indisplaymathimage}%
10377     \begin{lateximage}[\MathImageAltText]%
10378     \LWR@origequation%
10379 }%
10380 {%
10381     \LWR@origendequation%
10382     \end{lateximage}%
10383     \end{BlockClass}%
10384 }
```

79.4 MATHJAX support

Ctr `LWR@nextequation` Used to add one to compute the next equation number.

```
10385 \newcounter{LWR@nextequation}
```

\LWR@syncmathjax Sets the MATHJAX equation format and number for the following equations.

These MATHJAX commands are printed inside “\(`” and “\)`” characters. They are printed to HTML output, not interpreted by L^AT_EX.

```
10386 \newcommand*{\LWR@syncmathjax}{%
```

If using chapters, place the chapter number in front of the equation. Otherwise, use the simple equation number.

```
10387 \ifcsdef{thechapter}{
10388     \LWR@stoppars%
10389     \InlineClass{hidden}{
10390         \textbackslash(
10391         \textbackslash\textbackslash{}seteqsection \{\thechapter\}
10392         \textbackslash)
10393     }
10394     \LWR@startpars%
10395 }
10396 {}% not using chapters
```

MATHJAX doesn't allow setting the equation number to 1:

```
10397 \ifthenelse{\cnttest{\value{equation}}>0}
10398 {
```

Tell MATHJAX that the next set of equations begins with the current L^AT_EX equation number, plus one.

```
10399 \setcounter{LWR@nextequation}{\value{equation}}
10400 \addtocounter{LWR@nextequation}{1}
```

Place the MATHJAX command inside “\(`” and “\)`” characters, to be printed to HTML, not interpreted by L^AT_EX.

```
10401 \LWR@stoppars%
10402 \InlineClass{hidden}{
10403     \textbackslash(
10404     \textbackslash\textbackslash{}seteqnumber \{\arabic{LWR@nextequation}\}
10405     \textbackslash)
10406 }
10407 \LWR@startpars%
10408 }% not eq > 0
10409 }
```

\LWR@hidelatexequation {\langle environment\rangle} {\langle contents\rangle}

Creates the L^AT_EX version of the equation inside an HTML comment.

```
10410 \NewDocumentCommand{\LWR@hidelatexequation}{m +m}{%
```

Stop HTML paragraph handling and open an HTML comment:

```
10411 \LWR@stopars
10412 \LWR@htmlopencomment
10413
```

Start the L^AT_EX math environment inside the HTML comment:

```
10414 \begingroup
10415 @nameuse{\LWR@orig#1}
```

While in the math environment, restore various commands to their L^AT_EX meanings.

```
10416 \LWR@restoreorigformatting
```

See \LWR@htmlmathlabel in section 79.7.1.

Print the contents of the equation:

```
10417 #2
```

End the L^AT_EX math environment inside the HTML comment:

```
10418 @nameuse{\LWR@origend#1}
10419 \endgroup
10420
```

Close the HTML comment and resume HTML paragraph handling:

```
10421 \LWR@htmlclosecomment
10422 \LWR@startpars
10423 }
```

\LWR@addmathjax {⟨environment⟩} {⟨contents⟩}

Given the name of a math environment and its contents, create a MATHJAX instance. The contents are printed to HTML output, not interpreted by L^AT_EX.

```
10424 \NewDocumentCommand{\LWR@addmathjax}{m +m}{%
```

Enclose the MATHJAX environment inside printed “⟨” and “⟩” characters.

```
10425 \LWR@origtilde\LWR@orignewline
10426 \textbackslash{}begin\{\#1\}
```

Print the contents, sanitizing for HTML special characters.

```
10427 \LWR@HTMLsanitizeexpand{\detokenize\expandafter{\#2}}
```

Close the MATHJAX environment:

```
10428 \textbackslash{}end\{\#1\}
10429 \LWR@orignewline
10430 }
```

79.5 Equation environment

Remember existing equation environment, after redefined by `amsmath`, if loaded.

```
10431 \AtBeginDocument{
10432 \let\LWR@origequation\equation
10433 \let\LWR@origendequation\endequation
10434 \csletcs{\LWR@origequation*}{equation*}
10435 \csletcs{\LWR@origendequation*}{endequation*}
10436 }
```

```
\LWR@doequation {\langle env contents\rangle} {\langle env name\rangle}
```

For SVG math output, the contents are typeset using the original equation inside a `lateximage`, along with an `<alt>` tag containing a detokenized copy of the L^AT_EX source for the math.

For MATHJAX output, the contents are typeset in an original equation environment placed inside a HTML comment, with special processing for `\labels`. The contents are also printed to the HTML output for processing by the MATHJAX script.

```
10437 \newcommand*{\LWR@doequation}[2]{%
10438 }
```

If `mathjax` or `FormatWP`, print the L^AT_EX expression:

```
10439 \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }{%
```

MATHJAX output:

```
10440 {
```

Print commands to syncronize MATHJAX's equation number and format to the current L^AT_EX chapter/section and equation number:

```
10441 \LWR@syncmathjax%
```

Print the L^AT_EX math inside an HTML comment:

```
10442 \LWR@hidelatexequation{\#2}{\#1}
10443 }
```

SVG output: Create the `lateximage` along with an HTML `<alt>` tag having an equation number, the L^AT_EX equation environment commands, and the contents of the environment's `\BODY`.

```
10444 {%
  not mathjax
```

Begin the `lateximage` with an `<alt>` tag containing the math source:

```
10445 \ifstrequal{\#2}{equation*}{%
10446 \begin{BlockClass}{displaymath}%
```

```

10447      }{%
10448          \begin{BlockClass}{displaymathnumbered}%
10449      }%
10450          \LWR@newautoidanchor%
10451          \booltrue{\LWR@indisplaymathimage}%
10452          \begin{lateximage}[%]
10453              \ifstreq{\#2}{equation*}{%
10454                  \ifdefequal{\LWR@equationtag}{\theequation}{%
10455                      % no tag was given
10456                      }{%
10457                          (\LWR@equationtag) % tag was given
10458                      }%
10459                      }{%
10460                          (\LWR@equationtag) % automatic numbering
10461                      }%
10462                          \textbackslash{begin}\{\#2\} % extra space
10463                          \LWR@HTMLsanitizeexpand{\detokenize\expandafter{\#1}} % extra space
10464                          \textbackslash{end}\{\#2\}%
10465                      ]*% alt tag

```

Support for `xfakebold`:

```
10466      \LWR@applyxfakebold%
```

Create the actual L^AT_EX-formatted equation inside the `lateximage` using the contents of the environment.

```

10467      \nameuse{\LWR@orig#2}%
10468      #1% contents collected by \collect@body
10469      \nameuse{\LWR@origend#2}%
10470      \end{lateximage}%
10471      \end{BlockClass}%
10472  }% not mathjax

```

Clear the single-use alt text:

```
10473      \gdef\LWR@ThisAltText{}%
10474 }
```

After the environment, if MATHJAX, print the math to the HTML output for MATHJAX processing. If a footnote is used, sync the footnote counter before, then unsync after for non-equation environments, as defined next.

```

10475 \newcommand*{\LWR@doendequation}[1]{%
10476     \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }{%
10477         {%
10478             \IfSubStr{\detokenize\expandafter{\BODY}}{\detokenize{note}}{%
10479                 \InlineClass{hidden}{\LWR@syncnotenumbers}%
10480                 \LWR@addmathjax{\#1}{\BODY}%
10481                 \InlineClass{hidden}{\LWR@syncnotenames}%
10482             }{%
10483                 \LWR@addmathjax{\#1}{\BODY}%
10484             }%
10485         }{%
10486     }%
10487 }

```

Clear the single-use alt text:

```
10487     \gdef\LWR@ThisAltText{}%
10488 }
```

The following are used to synchronize footnote marks and related to MATHJAX if `*note` is used inside the MATHJAX expression. The counter is read from LATEX then defined into MATHJAX for use during the following equation. After the equation, the MATHJAX value is returned to the text from `\footnotename`. Other notes may be added by appending to `\LWR@syncnotenumbers` and `\LWR@syncnotenames`.

`\LWR@synconenotenumber {<MATHJAX variable>} {<mark>}`

```
10489 \newcommand*{\LWR@synconenotenumber}[2]{%
10490     \textbackslash%
10491     \textbackslash{}def\textbackslash{}#1\{#2\}%
10492     \textbackslash%
10493 }
```

`\LWR@syncnotenumbers` Assignments to make.

```
10494 \newcommand*{\LWR@syncnotenumbers}{\LWR@synconenotenumber{\LWRfootnote}{\thefootnote}}
```

`\LWR@synconenotename {<MATHJAX variable>} {<text>}`

```
10495 \newcommand*{\LWR@synconenotename}[2]{%
10496     \textbackslash%
10497     \textbackslash{}def\textbackslash{}#1\{#2\}%
10498     \textbackslash%
10499 }
```

`\LWR@syncnotenames` Assignments to make.

```
10500 \newcommand*{\LWR@syncnotenames}{\LWR@synconenotename{\LWRfootnote}{\footnotename}}
```

Remove existing equation environment:

```
10501 \AtBeginDocument{%
10502 \let\equation\relax%
10503 \let\endequation\relax%
10504 \csletcs{equation*}{\relax}%
10505 \csletcs{endequation*}{\relax}%
10506 }
```

`Env` `equation` The new equation environment is created with `\NewEnviron` (from the `environ` package), which stores the contents of its environment in a macro called `\BODY`.

```
10507 \AtBeginDocument{%
10508 %
10509 \NewEnviron{equation}{%
```

```

10510      {\LWR@doequation{\BODY}{equation}}%
10511      [\LWR@doendequation{equation}]
10512
10513 \LetLtxMacro{\LWR@equationnormal}{\equation}
10514 \LetLtxMacro{\endLWR@equationnormal}{\endequation}
10515
10516 }% AtBeginDocument

Env  equation*

10517 \AtBeginDocument{
10518
10519 \NewEnviron{equation*}{%
10520     {\LWR@doequation{\BODY}{\equation*}}%
10521     [\LWR@doendequation{\equation*}]
10522
10523 \csletcs{\LWR@equationnormalstar}{\equation*}
10524 \csletcs{\LWR@endequationnormalstar}{\endequation*}
10525
10526 }% AtBeginDocument

```

Remember the “less” version of `equation`, which uses MATHJAX and `alt` tags, but does not support complicated contents such as some Tikz expressions.

```

10527 \AtBeginDocument{
10528 \LetLtxMacro{\LWR@equationless}{\equation}
10529 \LetLtxMacro{\endLWR@equationless}{\endequation}
10530 \csletcs{\LWR@equationlessstar}{\equation*}
10531 \csletcs{\LWR@endequationlessstar}{\endequation*}
10532 }

```

79.6 `\displaymathnormal` and `\displaymathother`

<code>\displaymathnormal</code>	By default, or when selecting <code>\displaymathnormal</code> , MATHJAX math display environments print their contents as text into HTML, and SVG display math environments render their contents as SVG images and use their contents as the <code>alt</code> tag of HTML output. To do so, the contents are loaded into a macro for reuse. In some cases, such as complicated Tikz pictures, compilation will fail.
<code>\displaymathother</code> <small>MathJax unsupported complicated <code>alt</code> tag</small>	When selecting <code>\displaymathother</code> , it is assumed that the contents are more complicated than “pure” math. An example is an elaborate Tikz picture, which will not render in MATHJAX and will not make sense as an HTML <code>alt</code> tag. In this mode, MATHJAX is turned off, math display environments become SVG images, even if MATHJAX is selected, and the HTML <code>alt</code> tags become simple messages. The contents are internally processed as an environment instead of a macro argument, so complicated objects such as Tikz pictures are more likely to compile successfully.
<code>\displaymathnormal</code> <small>simple math objects</small>	Use when display math environments have simple math which is to sent to MATHJAX or included in HTML <code>alt</code> tags.

```

10533 \newcommand*{\displaymathnormal}{%
10534   \ifbool{LWR@origmathjax}{\booltrue{mathjax}}{\boolfalse{mathjax}}%
10535   \LetLtxMacro{[\LWR@openbracketnormal}%
10536   \LetLtxMacro{]\LWR@closebracketnormal}%
10537   \LetLtxMacro{\displaymath}{\LWR@displaymathnormal}%
10538   \LetLtxMacro{\enddisplaymath}{\endLWR@displaymathnormal}%
10539   \LetLtxMacro{\equation}{\LWR@equationnormal}%
10540   \LetLtxMacro{\endequation}{\endLWR@equationnormal}%
10541   \csletcs{equation*}{\LWR@equationnormalstar}%
10542   \csletcs{endequation*}{\LWR@endequationnormalstar}%
10543 }

```

\displaymathother Use when display math environments have complicated objects which will not work with MathJax or should not be included in HTML alt tags. Complicated contents are more likely to compile correctly.

```

10544 \newcommand*{\displaymathother}{%
10545   \boolfalse{mathjax}}%
10546   \LetLtxMacro{\displaymath}{\LWR@displaymathother}%
10547   \LetLtxMacro{\enddisplaymath}{\endLWR@displaymathother}%
10548   \LetLtxMacro{[\LWR@displaymathother}%
10549   \LetLtxMacro{]\LWR@displaymathother}%
10550   \LetLtxMacro{\equation}{\LWR@equationother}%
10551   \LetLtxMacro{\endequation}{\endLWR@equationother}%
10552   \csletcs{equation*}{\displaymath}%
10553   \csletcs{endequation*}{\enddisplaymath}%
10554 }

10555 \end{warpHTML}

```

for PRINT output: 10556 \begin{warpprint}

Print-mode versions:

```

10557 \newcommand*{\displaymathnormal}{}%
10558 \newcommand*{\displaymathother}{}%

10559 \end{warpprint}

```

for HTML output: 10560 \begin{warpHTML}

79.7 AMS Math environments

79.7.1 Support macros

Bool LWR@amsmultiline True if processing a multiline environment.

To compensate for multiline-specific code, LWR@amsmultiline is used to add extra horizontal space in \LWR@htmlmathlabel if is used in an amsmath environment which is not a multiline environment and not an equation.

```
10561 \newbool{LWR@amsmultiline}
10562 \boolfalse{LWR@amsmultiline}
```

```
\LWR@htmlmathlabel {⟨label⟩}
```

`lwarp` points `\ltx@label` here. This is used by `\label` when inside a L^AT_EX AMS math environment's math display environment.

`\LWR@origltx@label` points to the L^AT_EX original, modified by `lwarp`, then by `amsmath`, then by `cleveref`.

```
10563 \newcommand*{\LWR@htmlmathlabel}[1]{%
10564     \LWR@traceinfo{LWR@htmlmathlabelb #1}%
}
```

If `mathjax` or `FormatWP`, print the L^AT_EX expression:

```
10565     \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }{%
10566         {%
```

The combined L^AT_EX & HTML label is printed in a `\text` field:

```
10567         \text{%
```

Shift the label over to the right side of the environment to avoid over-printing the math:

```
10568         \ifbool{LWR@amsmultiline}{\hspace*{\totwidth}}{
```

Temporarily end the HTML comment, insert the L^AT_EX & HTML label, then resume the HTML comment. `\@firstofone` is required to remove extra braces introduced by the `amsmath` package.)

```
10569             \LWR@htmlclosecomment%
10570             \LWR@origltx@label{#1}%
10571             \LWR@htmlopencomment%
10572             }% text
10573             }% mathjax
10574             {%
10575                 \LWR@origltx@label{#1}%
10576             }%
10577 }
```

`\LWR@beginhideamsmath` Starts hiding L^AT_EX math inside an HTML comment.

```
10578 \newcommand*{\LWR@beginhideamsmath}{
10579     \LWR@stopars
10580     \LWR@origtilde\LWR@orignewline
10581     \LWR@htmlopencomment
10582     \begingroup
10583     \LWR@restoreorigformatting
10584 }
10585 }
```

\LWR@endhideamsmath Ends hiding L^AT_EX math inside an HTML comment.

```

10586 \newcommand*{\LWR@endhideamsmath}{
10587     \endgroup
10588
10589     \LWR@htmlclosecomment
10590     \LWR@newline
10591     \LWR@startpars
10592 }
```

79.7.2 Environment patches

The amsmath environments already collect their contents in \envbody for further processing. eqnarray is not an *AMS* package, and thus requires special handling.

For SVG math: Each environment is encapsulated inside a lateximage environment, along with a special optional argument of \LWR@amsmathbody or \LWR@amsmathbodynumbered telling lateximage to use as the HTML <alt> tag the environment's contents which were automatically captured by the *AMS* environment.

For MATHJAX: Each environment is synched with L^AT_EX's equation numbers, typeset with L^AT_EX inside an HTML comment, then printed to HTML output for MATHJAX to process.

Env eqnarray This environment is not an *AMS* environment and thus its body is not automatically captured, so the `environ` package is used to capture the environment into \BODY.

```

10593 \let\LWR@origeqnarray\eqnarray
10594 \let\LWR@origendeqnarray\endeqnarray
```

To remember whether the starred environment was used, and thus whether to number the equations:

```

10595 \newbool{\LWR@numbereqnarray}
10596 \booltrue{\LWR@numbereqnarray}
```

Common code used by eqnarray and Beqnarray (from `fancybox`):

```
10597 \newcommand{\LWR@eqnarrayfactor}{%
```

If `mathjax` or `FormatWP`, print the L^AT_EX expression:

```

10598     \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%
10599     {%
```

If MATHJAX, the environment contents (the \BODY) are executed in a HTML comment to trigger the correct equation number increment (if not starred), then are included verbatim in the output for MATHJAX to interpret:

```

10600     \LWR@syncmathjax%
10601     \boolfalse{\LWR@amsmultiline}%
```

```

10602      \ifbool{LWR@numbereqnarray}%
10603      {%

```

If numbering the equations, execute a copy inside an HTML comment block:

```

10604      \LWR@beginhideamsmath%
10605      \LWR@origeqnarray%
10606      \BODY%
10607      \LWR@origendeqnarray%
10608      \LWR@endhideamsmath%

```

Then print the (sanitized) contents to the output for MATHJAX to interpret:

```

10609      \LWR@addmathjax{eqnarray}{\BODY}%
10610      }%
10611      {%
        not LWR@numbereqnarray

```

If not numbering equations, just create the contents for MATHJAX:

```

10612      \LWR@addmathjax{eqnarray*}{\BODY}%
10613      }%
        LWR@numbereqnarray
10614      }%
        mathjax
10615      {%
        not mathjax
10616      \ifbool{LWR@numbereqnarray}%
10617      {%

```

For numbered SVG equations, first create a `lateximage` with an `alt` attribute containing sanitized copy of the source code:

```

10618      \begin{BlockClass}{displaymathnumbered}%
10619      \LWR@newautoidanchor%
10620      \booltrue{LWR@indisplaymathimage}%
10621      \begin{lateximage}[(\LWR@startingequationtag--\LWR@equationtag)%
10622      \LWR@addmathjax{eqnarray}{\BODY}]*

```

Support for `xfakebold`:

```

10623      \LWR@applyxfakebold%

```

Create the image contents using an actual `eqnarray`:

```

10624      \LWR@origeqnarray%
10625      \BODY%
10626      \LWR@origendeqnarray%
10627      \end{lateximage}%
10628      \end{BlockClass}%
10629      }%
10630      {%
        not LWR@numbereqnarray

```

If not numbered, do the same, but an extra `\nonumber` seems to be required:

```

10631      \begin{BlockClass}{displaymath}%
10632      \LWR@newautoidanchor%
10633      \booltrue{LWR@indisplaymathimage}%

```

```
10634 \begin{lateximage}[\LWR@addmathjax{eqnarray*}{\BODY}]*%
```

Support for *xfakebold*:

```
10635 \LWR@applyxfakebold%
```

```
10636 \def\@eqncr{\nonumber\@seqncr}
10637 \csuse{\LWR@origeqnarray}%
10638 \BODY%
10639 \nonumber\csuse{\LWR@origendeqnarray}%
10640 \end{lateximage}%
10641 \end{BlockClass}%
10642 }% \LWR@numbereqnarray
10643 }% not mathjax
```

Default to number equations in the future:

```
10644 \booltrue{\LWR@numbereqnarray}%
```

Clear the single-use alt text:

```
10645 \gdef{\LWR@ThisAltText}{}
10646 }
```

eqnarray itself is made with a blank line before and after to force it to be on its own line:

```
10647 \RenewEnviron{eqnarray}
10648 {%
10649 \LWR@eqnarrayfactor
10650 \LWR@eqnarrayfactor
10651 \LWR@eqnarrayfactor
10652 }
```

The starred version is patched to turn off the numbering:

```
10653 \csgpreto{eqnarray*}{\boolfalse{\LWR@numbereqnarray}}
10654 \end{warpHTML}
```

80 Lateximages

80.1 Description

Env `lateximage` A *lateximage* is a piece of the document which is typeset in L^AT_EX then included in the HTML output as an image. This is used for math if SVG math is chosen, and also for the *picture*, *tikzpicture*, and other environments.

Before typesetting the *lateximage* a large number of formatting, graphics, and symbols-related macros are temporarily restored to their print-mode meaning by `\LWR@restoreorigformatting`. (See section 78.)

A `lateximage` is typeset on its own PDF page inside an HTML comment which starts on the preceding page and ends on following page, and instructions are written to `lateximage.txt` for `lwarpmk` to extract the `lateximage` from the page of the PDF file then generate an accompanying `.svg` file image file. Meanwhile, instructions to show this image are placed into the HTML file after the comment.

An HTML `` is created to hold both the HTML comment, which will have the `pdftotext` conversion, and also the link to the final `.svg` image.

A L^AT_EX label is used to remember which PDF page has the image. A label is used because footnotes, endnotes, and pagenotes may cause the image to appear at a later time. The label is declared along with the image, and so it correctly remembers where the image finally ended up.

- HTML alt tag** The HTML alt tag is set to the L^AT_EX source for SVG math, some chemistry expressions, and perhaps some other expressions which make sense for text copy/paste. In some other cases, the alt tag is set according to the package name.

When creating an SVG math image, its HTML alt tag may be set to the math expression, which may be hashed for image reuse. In the case of `\ensuremath` or after `\inlinemathother`, where the contents require a unique image for each instance of the same expression, the alt tag is set to `\MathImageAltText`, along with `\AltTextOpen` and `\AltTextClose`, and the image is not reused.

This alt expression is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is “math image”, and it may be changed according to the document’s language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following SVG math images.

For many packages, the output is placed inside a `lateximage` with an HTML alt tag set to the package name followed by `\PackageDiagramAltText`. For example:

```
(-xy- diagram)
```

This expression is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is “diagram”, and it may be changed according to the document’s language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following package diagrams.

- SVG image font size** For the `lateximage` environment, the size of the math and text used in the SVG image may be adjusted by setting `\LateximageFontSizeName` to a font size name—*without the backslash*, which defaults to:

```
\renewcommand{\LateximageFontSizeName}{\normalsize}
```

For inline SVG math, font size is instead controlled by `\LateximageFontSize`, which defaults to:

```
\newcommand*{\LateximageFontSize}{.75}
```

80.2 Support counters and macros

for HTML output: 10655 \begin{warpHTML}

Ctr LWR@lateximagenumber Sequence the images.

```
10656 \newcounter{LWR@lateximagenumber}
10657 \setcounter{LWR@lateximagenumber}{0}
```

Ctr LWR@lateximagedepth Do not create \latexitimage inside of \latexitimage.

```
10658 \newcounter{LWR@lateximagedepth}
10659 \setcounter{LWR@lateximagedepth}{0}
```

A few utility macros to write special characters:

```
10660 \edef\LWR@hashmark{\string#} % for use in \write
10661 \edef\LWR@percent{\@percentchar} % for use in \write
```

Ctr LWR@LIpage Used to reference the PDF page number of a latexitimage to be written into <project>-images.txt.

```
10662 \newcounter{LWR@LIpage}
10663 \end{warpHTML}
```

80.3 Font size

for HTML & PRINT: 10664 \begin{warpall}

\LatexitimageFontSizeName Declares how large to write text in \latexitimages. The .svg file text size should blend well with the surrounding HTML text size.

 **no backslash** *Do not include the leading backslash in the name.*

```
10665 \newcommand*\LatexitimageFontSizeName{normalsize}
```

\LatexitimageFontSize Scale Declares how large to scale inline SVG math images. The .svg file text size should blend well with the surrounding HTML text size. The default is 1, but it may be redefined as needed depending on the HTML font.

```
10666 \newcommand*\LatexitimageFontSize{1}
10667 \end{warpall}
```

80.4 Equation numbers

for HTML output: 10668 \begin{warpHTML}

Ctr `LWR@startingequation` For use with `lateximage` and multi-line numbered equations. Remembers the next equation number so that it may be printed in the alt tag.

```
10669 \newcounter{LWR@startingequation}
10670
10671 \@ifundefined{chapter}
10672 {
10673 \renewcommand{\theLWR@startingequation}{%
10674     \arabic{LWR@startingequation}%
10675 }
10676 }
10677 {% chapter defined
10678 \renewcommand{\theLWR@startingequation}{%
10679     \ifnumcomp{\value{chapter}}{>}{0}{\arabic{chapter}. }{}%
10680     \arabic{LWR@startingequation}%
10681 }
10682 }
```

Bool `LWR@isstartingequation` True for the first equation tag, false for later tags in the same environment.

```
10683 \newbool{LWR@isstartingequation}
```

`\LWR@startingequationtag` Prints the starting equation number or tag.

```
10684 \let\LWR@startingequationtag\theLWR@startingequation
```

`\LWR@equationtag` Prints the ending equation number or tag.

This is reset by `lateximage`, may be temporarily overwritten by `\tag` calling `\LWR@remembertag`.

```
10685 \newcommand*\LWR@equationtag{}
```

Only if SVG math, patch `\tag` after packages have loaded, in case someone else modified `\tag`.

```
10686 \AtBeginDocument{
10687
10688 \ifbool{mathjax}{}{%
    \patchcmd{\tag}{\LWR@equationtag}{\LWR@remembertag}{}{}}
```

`\LWR@remembertag {<tag>}`

For use inside the math environments while using SVG math. Sets `\theLWR@startingequation` and `\theequation` to the given tag.

```
10689 \NewDocumentCommand{\LWR@remembertag}{m}{%
10690     \ifbool{LWR@isstartingequation}{%
10691         \global\boolfalse{LWR@isstartingequation}%
10692         \xdef\LWR@startingequationtag{\#1}%
10693     }{%
10694     }%
10695     \xdef\LWR@equationtag{\#1}%
10696 }
```

```
10697 }% not mathjax
10698 }% AtBeginDocument
```

80.5 HTML alt tags

\LWR@amsmathbody {*envname*} For use inside the optional argument to a `lateximage` to add the contents of a AMS math environment to the `<alt>` tag.

```
10699 \newcommand*{\LWR@amsmathbody}[1]
10700 {%
10701     \textbackslash\begin\{}\#1\% extra space
10702     \LWR@HTMLsanitizeexpand{\detokenize\expandafter{\the\@envbody}}%
10703     \textbackslash\end\{}\#1\%
10704 }
```

\LWR@amsmathbodynumbered {*envname*} For use inside the optional argument to a `lateximage` to add the contents of a AMS math environment to the `alt` tag, prefixed by the equation numbers.

```
10705 \newcommand*{\LWR@amsmathbodynumbered}[1]
10706 {%
10707     \ifnumcomp{\value{\LWR@startingequation}}{=}{\value{equation}}{%
10708         {(\LWR@equationtag)}%
10709         {(\LWR@startingequationtag--\LWR@equationtag)}% extra space
10710     \LWR@amsmathbody{\#1}% extra space
10711 }}
```

80.6 lateximage environment

\LWR@lateximage@oneimageb {*1: alt text*} {*2: filename*} {*3: CSS style*} Creates the image for the `lateximage`.

```
10712 \newcommand{\LWR@lateximage@oneimageb}[3]{%
10713     \LWR@subinlineimage{\#1}{\text{lateximage}}%
10714     {%
10715         \LWR@print@mbox{%
10716             \LWR@ImagesDirectory\OSPathSymbol%
10717             \#2%
10718         }%
10719     }{\text{svg}}{\#3}%
10720 }
```

\LWR@lateximage@oneimage {*1: alt text*} {*2: filename*} {*3: css style*} {*4: delimit?*}

Creates an image for the `lateximage`, whose `alt` text depends on the circumstances.

```
10721 \newcommand{\LWR@lateximage@oneimage}[4]{%
10722     \ifdefvoid{\LWR@ThisAltText}{%
10723         \IfBooleanTF{\#4}{%
10724             \LWR@lateximage@oneimageb{\#1}{\#2}{\#3}%
10725         }{%
```

```

10726          \LWR@lateximage@oneimageb%
10727          {\AltTextOpen#1\AltTextClose}%
10728          {#2}{#3}%
10729      }%
10730  }{%
10731      \LWR@lateximage@oneimageb%
10732      {\AltTextOpen\LWR@ThisAltText\AltTextClose}%
10733      {#2}{#3}%
10734  }%
10735 }

```

Env `lateximage * [<2:<alt> tag] * [<4:add'l hashing>] [<5:css style>]`

Typesets the contents and then renders the result as an SVG file. Star #1 causes the image to be hashed for reuse. Star #3 causes the alt tag to not include \AltTextOpen and \AltTextClose, for use with math expressions.

The optional <alt> tag is included in the HTML code for use with copy/paste.

image filename hashing If starred, a hashed filename is used. If so, the hash is based on the alt tag and also the additional hashing argument.

This may be used to provide an expression with a simple alt tag but also enough additional information to provide a unique hash.

An example is when the expression is a complicated TeX expression, which would not copy/paste well. A simplified tag may be used, while the complicated expression is duplicated in the additional hashing argument.

Another example is when the expression is simple, but the image depends on options. These options may be decoded into text form and included in the additional hashing argument in order to make the hash unique according to the set of options, even if the simple alt tag is still the same.

File `*_html.aux` A new label is placed into the file *_html.aux:

```
\newlabel{\LWR@lateximage-<BaseJobname>-<number>}{{<x>}{<y>}}
```

This is used to find the image in the PDF file, according to its name.

File `*-images.txt` A list of images to generate is created in <jobname>-images.txt. Each line has three pipe-delimited fields, containing the PDF page number from <jobname>_html.pdf, where the image is located, a boolean indicating whether the image is hashed, and the filename of the image. The last line has “end” in each field, and is used to detect an incomplete compile.

```

10736 \catcode`\$=\active%
10737
10738 \NewDocumentEnvironment{lateximage}{s 0{\ImageAltText} s 0{} 0{}}
10739 {%
10740 \LWR@traceinfo{lateximage: starting on \jobname.pdf page \arabic{page}}%
10741 \LWR@traceinfo{lateximage: entering depth is \arabic{\LWR@lateximagedepth}}%

```

Nested `lateximage`s remain one large `lateximage`:

```
10742 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
```

If nesting inside an already-existing `lateximage`, simply record one more level. *AMS* packages redefine `\addtocounter` to do nothing if inside a `\text`, so lower-level `TEX` macros are used for tracking nested `lateximage`s.

```
10743 {%
10744 %     \addtocounter{LWR@lateximagedepth}{1}%
10745     \global\advance\c@LWR@lateximagedepth 1\relax% Due to AmS \text macro.
10746 }%
```

Otherwise, this is the outer-most `lateximage`:

```
10747 {% start of outer-most lateximage
```

Remember the next equation number to be allocated, in case it must be printed in a multi-equation environment:

```
10748     \LWR@traceinfo{lateximage: starting outer-most lateximage}%
10749     \setcounter{LWR@startingequation}{\value{equation}}%
10750     \addtocounter{LWR@startingequation}{1}%
10751     \booltrue{LWR@isstartingequation}%
10752     \let\LWR@startingequationtag\theLWR@startingequation%
```

The default equation tag, unless overwritten by `\tag`:

```
10753     \let\LWR@equationtag\theequation%
```

Starting a new `lateximage`:

```
10754     \addtocounter{LWR@lateximagenumber}{1}%
10755     \LWR@traceinfo{lateximage: LWR@lateximagenumber is \arabic{LWR@lateximagenumber}}%
```

While inside a `lateximage`, locally do not use `mathjax`:

```
10756     \boolfalse{mathjax}%
```

Be sure that are doing a paragraph:

```
10757     \LWR@ensuredoingapar%
```

Next file:

```
10758     \addtocounter{LWR@externalfilecnt}{1}%
10759     \LWR@traceinfo{lateximage: LWR@externalfilecnt is \arabic{LWR@externalfilecnt}}%
```

Figure out what the next page number will be. `\setcounterpageref` assigns `LWR@LIpage` to the page number for the reference `LWR@lateximage-BaseJobname-XXX`:

```
10760     \setcounterpageref{LWR@LIpage}{%
10761         LWR@lateximage-\BaseJobname-\arabic{LWR@lateximagenumber}}%
```

```

10762      }%
10763      \LWR@traceinfo{lateximage: LWR@LIpage is \arabic{LWR@LIpage}}%

```

Create an HTML span which will hold the comment which contains the *pdftotext* translation of the image's page, and also will hold the link to the .svg file:

```

10764      \LWR@htmlltag{span\LWR@indentHTML%
10765          id="lateximage-\BaseJobname-\arabic{LWR@lateximagenumber}"\LWR@indentHTML
10766          class="lateximagesource"\LWR@orignewline
10767      }%

```

Write instructions to the <ImagesDirectory>.txt file:

```

10768      \LWR@traceinfo{lateximage: about to write to \BaseJobname-images.txt}%
10769      \IfBooleanTF{#1}{% starred
10770      {%

```

Compute and save the hashed file name for later use:

```

10771      \ifdefvoid{\LWR@ThisAltText}{%
10772          \IfBooleanTF{#3}{%
10773              \edef\LWR@hashedname{%
10774                  \LWR@mdfive{\detokenize\expandafter{#2}-!-#4}%
10775              }%
10776          }{%
10777              \edef\LWR@hashedname{%
10778                  \LWR@mdfive{\detokenize\expandafter{\AltTextOpen#2\AltTextClose}-!-#4}%
10779              }%
10780          }%
10781      }{%
10782          \edef\LWR@hashedname{%
10783              \LWR@mdfive{\detokenize\expandafter{\AltTextOpen\LWR@ThisAltText\AltTextClose}-!-#4}%
10784          }%
10785      }%
10786      \LWR@traceinfo{lateximage: hash is \LWR@hashedname}%

```

Write the page, hashing, and hashed name:

```

10787      \immediate\write\LWR@lateximagesfile{%
10788          |\arabic{LWR@LIpage}|true|\LWR@hashedname|%
10789      }%
10790  }% hash
10791  {%

```

No hash, so write the page, no hashing, and the image number:

```

10792      \LWR@traceinfo{lateximage: hash false}%
10793      \immediate\write\LWR@lateximagesfile{%
10794          |\arabic{LWR@LIpage}|false|\LWR@ImagesName\arabic{LWR@externalfilecnt}|%
10795      }%
10796  }% no hash

```

Place an open comment tag. This will hide any traces of the lateximage PDF page which were picked up by *pdftotext*.

```
10797 \LWR@traceinfo{lateximage: about to create open comment}%
10798 \LWR@htmlopencomment%
```

One level deeper. At this outer-most lateximage, it is known that this is not being used inside an *AMS* \text, since the outer-most level will never be in math mode.

```
10799 \addtocounter{LWR@lateximagedepth}{1}%
```

Start the new PDF page:

```
10800 \LWR@traceinfo{lateximage: about to create a new page}%
10801 \LWR@orignewpage%
```

If the current page is larger, typeset the image in a “standard” width page and font size:

```
10802 \LWR@traceinfo{lateximage: about to create minipage}%
10803 \ifdimless{\linewidth}{6in}{%
10804   \LWR@print@minipage{\linewidth}%
10805 }{%
10806   \LWR@print@minipage{6in}%
10807 }%
10808 \nameuse{LWR@print@\LateximageFontSizeName}%
```

Temporarily restore formatting to its PDF definitions: Do not produce HTML tags for \hspace, etc. inside a lateximage.

```
10809 \LWR@traceinfo{lateximage: about to temporarily restore formatting}%
10810 \LWR@restoreorigformatting%
```

Use full-page footnotes instead of minipage footnotes. These become HTML footnotes.

```
10811 \def\mpfn{footnote}%
10812 \def\thempfn{\thefootnote}%
10813 \LetLtxMacro\footnotetext\LWR@footnotetext%
```

Create the LWR_{label} label:

```
10814 \LWR@traceinfo{lateximage: about to create label}%
10815 \LWR@orig@label{LWRlabel-\BaseJobname-\arabic{LWR@lateximagenumber}}%
10816 \LWR@traceinfo{lateximage: finished creating the label}%
```

Adjust the rule color to match HTML:

```
10817 \ifdefvoid{\LWR@ruleHTMLcolor}{}{%
10818   \LWR@print@arrayrulecolor[HTML]{\LWR@ruleHTMLcolor}%
10819 }%
```

Enable print-mode math functions:

```

10820  \LetLtxMacro$\LWR@origdollar%
10821  \catcode`\$=3% math shift
10822  \LetLtxMacro\(\LWR@origopenparen%
10823  \LetLtxMacro\)\LWR@origcloseparen%

```

Only enable print-mode display math if are not already inside display math:

```

10824  \ifbool{\LWR@indisplaymathimage}{}{%
10825      \LetLtxMacro\[ \LWR@origopenbracket%
10826      \LetLtxMacro] \LWR@origclosebracket%
10827      \let\equation\LWR@origequation%
10828      \let\endequation\LWR@origendequation%
10829      \csletcs{equation*}{\LWR@origequation*}%
10830      \csletcs{endequation*}{\LWR@origendequation*}%
10831  }%

```

For chemformula:

```

10832  \LetLtxMacro\newsingle$%
10833  \LetLtxMacro\newsingle$% syntax highlighting
10834 }% end of outer-most lateximage
10835 \LWR@traceinfo{lateximage: finished start of environment}%
10836 }% end of \begin{lateximage}

```

\end{lateximage} When the environment closes:

```

10837 }% start of \end{lateximage}
10838 \LWR@traceinfo{lateximage: starting end of lateximage}%

```

Nested more than one deep?

```

10839 \LWR@traceinfo{lateximage: internal depth was \arabic{\LWR@lateximagedepth}}%
10840 \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{1}%

```

If nesting inside an already existing lateximage, simply record one less level. Uses a lower-level T_EX macro due to *AMS* \text change of \addtocounter.

```

10841 }%
10842     \LWR@traceinfo{lateximage: unnesting}%
10843     \global\advance\c@LWR@lateximagedepth -1\relax%
10844 }%

```

If this is the outer-most lateximage:

```

10845 }% end of outer-most lateximage

```

Finish the lateximage minipage and start a new PDF page:

```

10846 \LWR@traceinfo{lateximage: ending outer-most lateximage}%
10847     \endLWR@print@minipage%
10848     \LWR@orignewpage%

```

Close the `HTML` comment which encapsulated any traces of the `lateximage` picked up by `pdftotext`:

```
10849      \LWR@print@vspace*{.5\baselineskip}%
10850      \LWR@htmlclosecomment%
10851      \LWR@traceinfo{lateximage: The page after the image is \arabic{page}}%
```

Create a link to the `lateximage`, allowing its natural height:

```
10852      \IfBooleanTF{#1}{ starred
10853      {%
10854          \LWR@lateximage@oneimage{#2}{\LWR@hashedname}{#5}{#3}%
10855      }%
10856      {%
10857          \LWR@lateximage@oneimage{#2}{\LWR@ImagesName\theLWR@externalfilecnt}{#5}{#3}%
10858      }%
}
```

Be sure that are doing a paragraph:

```
10859      \LWR@ensuredoingapar%
```

Close the `HTML` span which has the `pdftotext` comment and also the link to the `.svg` image:

```
10860      \LWR@htmlltag{/span}%
10861      \ifbool{HTMLDebugComments}{%
10862          \LWR@htmlcomment{End of lateximage}%
10863      }%
```

Undo one `lateximage` level. This is not inside an `AMS \text`, so regular `\addtocounter` may be used here.

```
10864      \addtocounter{LWR@lateximagedepth}{-1}%

```

Clear the single-use alt text:

```
10865      \gdef\LWR@ThisAltText{}%
10866  }% end of outer-most lateximage
10867 \LWR@traceinfo{lateximage: exiting depth is \arabic{LWR@lateximagedepth}}%
10868 \LWR@traceinfo{lateximage: done}%
10869 }%
10870 \catcode`\$=3% math shift
10871 \end{warpHTML}
```

for PRINT output: 10872 `\begin{warpprint}`

Env `lateximage` * [`<alt> tag`] * [`<add'l hashing>`] [`<css style>`]

`varwidth` is used to create a box of the natural width of its contents.

```
10873 \NewDocumentEnvironment{lateximage}{s o s o o}
10874     {\begin{varwidth}[b]{\linewidth}}
10875     {\end{varwidth}}
```

```
10876 \end{warpprint}
```

81 center, flushleft, flushright

for HTML output: 10877 \begin{warpHTML}

Env center Replace center functionality with css tags:

```
10878 \renewenvironment*{center}
10879 {
10880     \LWR@forcenewpage
10881     \ifbool{FormatWP}
10882         {\BlockClass[\LWR@print@mbox{text-align:center}]{center}}
10883         {\BlockClass{center}}
10884 }
10885 {\endBlockClass}
```

Env flushright

```
10886 \renewenvironment*{flushright}
10887 {
10888     \LWR@forcenewpage
10889     \ifbool{FormatWP}
10890         {\BlockClass[\LWR@print@mbox{text-align:right}]{flushright}}
10891         {\BlockClass{flushright}}
10892 }
10893 {\endBlockClass}
```

Env flushleft

```
10894 \renewenvironment*{flushleft}
10895 {
10896     \LWR@forcenewpage
10897     \ifbool{FormatWP}
10898         {\BlockClass[\LWR@print@mbox{text-align:left}]{flushleft}}
10899         {\BlockClass{flushleft}}
10900 }
10901 {\endBlockClass}
```

\centering, \raggedleft, and \raggedright usually have no effect on the HTML output, but they may be used to compare with the next token to identify their use at the start of a float. See \LWR@floatalignment.

\centering

```
10902 \newcommand*{\LWR@HTML@centering}{%
10903     \ifbool{HTMLDebugComments}{%
10904         \LWR@htmlcomment{centering}%
10905     }{}%
```

```

10906 }
10907 \LWR@formatted{centering}

\raggedleft

10908 \newcommand*{\LWR@HTML@raggedleft}{%
10909     \ifbool{HTMLDebugComments}{%
10910         \LWR@htmlcomment{raggedleft}%
10911     }{}%
10912 }
10913 \LWR@formatted{raggedleft}

\raggedright

10914 \newcommand*{\LWR@HTML@raggedright}{%
10915     \ifbool{HTMLDebugComments}{%
10916         \LWR@htmlcomment{raggedright}%
10917     }{}%
10918 }
10919 \LWR@formatted{raggedright}

\leftline {\langle text\rangle}

10920 \renewcommand{\leftline}[1]{\begin{flushleft}\#1\end{flushleft}}

\centerline {\langle text\rangle}

10921 \renewcommand{\centerline}[1]{\begin{center}\#1\end{center}>

\rightline {\langle text\rangle}

10922 \renewcommand{\rightline}[1]{\begin{flushright}\#1\end{flushright}>

10923 \end{warpHTML}

```

82 Preloaded packages

for HTML output: 10924 \begin{warpHTML}

If the given package was loaded before or by lwarp, load the lwarp version as well.

```

\LWR@PreloadedPackage {\langle packagename\rangle}

10925 \newcommand*{\LWR@PreloadedPackage}[1]{%
10926     \@ifpackageloaded{\#1}{%
10927         {%
10928             \AtBeginDocument{%
10929                 \LWR@origRequirePackage{lwarp-\#1}%

```

```
10930      }
10931  }%
10932  {}%
10933 }
```

If `inputrc` was loaded before `l warp`, as is usually done, explicitly load the `l warp` patches now:

```
10934 \LWR@PreloadedPackage{inputrc}
```

If `textcomp` was loaded before `l warp`, perhaps as part of the font-related packages, explicitly load the `l warp` patches now:

```
10935 \LWR@PreloadedPackage{textcomp}
```

If `xunicode` was loaded before `l warp`, perhaps as part of the font-related packages, explicitly load the `l warp` patches now:

```
10936 \LWR@PreloadedPackage{xunicode}
```

If `graphics` or `graphicx` were loaded before `l warp`, perhaps by `xunicode`, explicitly load the `l warp` patches now:

```
10937 \LWR@PreloadedPackage{graphics}
10938 \LWR@PreloadedPackage{graphicx}
```

`fontaxes` must be preloaded so that `l warp` may patch it for HTML.

```
10939 \LWR@PreloadedPackage{fontaxes}
```

`nfssext-cfr` may be preloaded by `cfm-lm` or related font packages.

```
10940 \LWR@PreloadedPackage{nfssext-cfr}
```

`ulem` may be preloaded by `ctex`, `ctexart`, and related classes.

```
10941 \LWR@PreloadedPackage{ulem}
```

`xetexko-vertical` may be preloaded by `xetexko`.

```
10942 \LWR@PreloadedPackage{xetexko-vertical}
```

`geometry` is preloaded by `l warp`, and perhaps by various classes.

```
10943 \LWR@PreloadedPackage{geometry}
```

`plex` is preloaded by some CJK classes.

```
10944 \LWR@PreloadedPackage{plex}
```

`stfloats` is preloaded by `ltj*` classes.

```
10945 \LWR@PreloadedPackage{stfloats}
```

`lltjext` is preloaded by `ltj*` classes.

```
10946 \LWR@PreloadedPackage{lltjext}
```

`luatexko` must be loaded before `lwarp`.

```
10947 \LWR@PreloadedPackage{luatexko}
```

```
10948 \end{warpHTML}
```

83 siunitx

`Pkg siunitx` The `lwarp` core passes a few options to `siunitx`.

`fractions` Due to `pdftotext` limitations, fraction output is replaced by symbol output for per-mode and quotient-mode.

⚠ `math mode required` Some units will require that the expression be placed inside math mode.

⚠ `tabular` Tabular S columns are rendered as simple c columns, and tabular s columns are not supported. These may be replaced by c columns with each cell contained in `\num` or `\si`.

⚠ `MathJax` For math mode with SVG display, the original `siunitx` code is used while generating the SVG image. For text mode, `lwarp` uses an emulation which provides a very effective HTML interpretation of `siunitx`. For math expressions while using MATHJAX, a limited emulation is used. Most functions work reasonably well, but many options cannot be emulated. `siunitx` macros with more than one optional value cannot absorb the second optional value, and complicated parsing such as for `\ang` is not supported. The result usually looks fine, and otherwise is enough to get the meaning across.

`lwarp`'s MATHJAX emulation for `siunitx` is meant to be a stop-gap measure until an extension is included in MATHJAX. As of this writing, the third-party `siunitx` extension for MATHJAX is not currently hosted at any public CDN, thus `siunitx` is not usable with this extension unless a local copy of this extension is created first. See `\MathJaxFilename` to select a custom MathJax script, but `lwarp`'s emulation would have to be disabled as well.

Document modifications required for MATHJAX:

`custom units` • Custom units may be added with `\CustomizeMathJax`. See the `lwarp-siunitx` code for examples.

⚠ `unit spacing` • Units work better using `~` between units instead of using periods.

⚠ `\square, \cubic` • To square or cube compound units, enclose the following compound units in braces:

```
\cubic{\centi\meter}
```

Single units do not require braces.

Also see [MATHJAX option](#), section [8.7.4](#).

for HTML output: 10949 `\begin{warpHTML}`

Options for `siunitx`:

```

10950 \newrobustcmd{\LWR@siunitx@textcelsius}{\HTMLentity{deg}C}
10951 \newrobustcmd{\LWR@siunitx@textdegree}{\HTMLentity{deg}}
10952 \newrobustcmd{\LWR@siunitx@textprime}{\HTMLunicode{2032}}
10953 \newrobustcmd{\LWR@siunitx@textdblprime}{\HTMLunicode{2033}}
10954 \newrobustcmd{\LWR@siunitx@textplanckbar}{\text{\textit{\HTMLunicode{0127}}}}}
10955
10956 \appto{\LWR@restoreorigformatting}{%
10957 \renewrobustcmd{\LWR@siunitx@textcelsius}{\text{\ensuremath{^\circ}C}}%
10958 \renewrobustcmd{\LWR@siunitx@textdegree}{\text{\ensuremath{^\circ}}}%
10959 \renewrobustcmd{\LWR@siunitx@textprime}{\text{\ensuremath{^{\prime}}}}%
10960 \renewrobustcmd{\LWR@siunitx@textdblprime}{\text{\ensuremath{^{\prime\prime}\prime}}}}%
10961 \renewrobustcmd{\LWR@siunitx@textplanckbar}{\text{\ensuremath{\hbar}}}}%
10962 }
10963
10964 \PassOptionsToPackage{
10965   detect-mode=true,
10966   per-mode=symbol, % fraction is not seen by pdftotext
10967   text-celsius = {\LWR@siunitx@textcelsius},
10968   text-degree = {\LWR@siunitx@textdegree},
10969   text-arcminute = {\LWR@siunitx@textprime} ,
10970   text-arcsecond = {\LWR@siunitx@textdblprime} ,
10971 }{siunitx}

10972 \end{warpHTML}

```

84 Graphics print-mode modifications

84.1 General limitations

⚠ scale Avoid using the `\includegraphics scale` option. Change:

```
\includegraphics[scale=<xx>]{...}
```

to:

```
\includegraphics[width=<yy>\linewidth]{...}
```

\includegraphics formats For `\includegraphics` with .pdf or .eps files, the user must provide a .pdf or .eps image file for use in print mode, and also a .svg, .png, or .jpg version of the same image for use in HTML.

```
\includegraphics{filename} % print:.pdf/.eps HTML:.svg, etc.
```

For print output, l warp will automatically choose the .pdf or .eps format if available, or some other format otherwise. For HTML, one of the other formats is used instead.

If a .pdf or .eps image is referred to with its file extension, the extension will be changed to .svg for HTML:

```
\includegraphics{filename.pdf} % uses .svg in html
\includegraphics{filename.eps} % uses .svg in html
```

Prog pdftocairo PDF to SVG To convert a PDF image to SVG, use the utility *pdftocairo*:

Enter ⇒ **pdftocairo -svg filename.pdf**

Prog lwarpmk pdftosvg For a large number of images, use *lwarpmk*:

Enter ⇒ **lwarpmk pdftosvg *.pdf (or a list of filenames)**

Prog lwarpmk epstopdf epstopdf package For EPS images converted to PDF using the package *epstopdf*, use

Enter ⇒ **lwarpmk pdftosvg *.PDF**

to convert to SVG images.

DVI latex When using DVI *latex*, it is necessary to convert EPS to PDF and then to SVG:

Enter ⇒ **lwarpmk epstopdf *.eps (or a list of filenames)**

Enter ⇒ **lwarpmk pdftosvg *.pdf (or a list of filenames)**

PNG and JPG For PNG or JPG while using *pdflatex*, *lualatex*, or *xelatex*, the same file may be used in both print or HTML versions, and may be used with a file extension, but will also be used without the file extension if it is the only file of its base name.

GIF GIF files may be used for HTML, but another format must also be provided for print output.

file extension priorities If a file extension is not used, for HTML the file extension priorities are: SVG, GIF, PNG, then JPG.

⚠ graphics vs. graphicx

⚠ viewport

⚠ viewport units

If using the older *graphics* syntax, use both optional arguments for *\includegraphics*. A single optional parameter is interpreted as the newer *graphicx* syntax. Note that viewports are not supported by *lwarf*—the entire image will be shown.

For *\includegraphics*, avoid px and % units for width and height, or enclose them inside *warpHTML* environments. For font-proportional image sizes, use ex or em. For fixed-sized images, use cm, mm, in, pt, or pc. Use the keys *width=.5\linewidth*, or similar for *\textwidth* or *\textheight* to give fixed-sized images proportional to a 6 by 9 inch text area. Do not use the *scale* option, since it is not well supported by HTML browsers.

options *\includegraphics* accepts *width* and *height*, *origin*, *rotate* and *scale*, plus new *class* and *alt* keys.

HTML class With HTML output, *\includegraphics* accepts an optional *class=xyz* keyval combination, and if this is given then the HTML output will include that class for the image. The class is ignored for print output.

HTML alt tags Likewise, the *\includegraphics alt* key adds an HTML alt tag to an image, and is

ignored for print output. If not assigned, each image is given an `alt` tag according to `\ImageAltText`.

`\rotatebox` `\rotatebox` accepts the optional `origin` key.

 **browser support** `\rotatebox`, `\scalebox`, and `\reflectbox` depend on modern browser support. The `css3` standard declares that when an object is transformed the whitespace which they occupied is preserved, unlike L^AT_EX, so expect some ugly results for scaling and rotating.

84.2 Print-mode modifications

for PRINT output: For print output, accept and then discard the new `class` key:

```
10973 \begin{warpprint}
10974 \define@key{Gin}{class}{}
10975 \define@key{Gin}{alt}{}
```

Print-mode additions for the `overpic` package. See section 394 for the HTML version.

```
10976 \AtBeginDocument{
10977 \@ifpackageloaded{overpic}{
10978 \newcommand*\overpicfontsize{12}
10979 \newcommand*\overpicfontskip{14}
10980 }{}}
10981 }
10982 \end{warpprint}
```

85 xcolor boxes

Pkg `xcolor` A few new definitions are provided for enhanced HTML colored boxes, and `\fcolorbox` is slightly modified. Print-mode version are also provided.

Print-mode versions of new `xcolor` defintions. These are defined inside `warpall` because they are also used for HTML while inside a `\teximage`. They are defined `\AtBeginDocument` so that the `xcolor` originals may first be loaded and saved for reuse.

The framed versions are modified to allow a background color of `none`, in which case only the frame is drawn, allowing the background page color to show.

for HTML & PRINT: 10983 `\begin{warpall}`

After `xparse` may have been loaded ...

```
10984 \AtBeginDocument{
... and only if xcolor was loaded:
10985 \@ifpackageloaded{xcolor}{

10986 \LWR@traceinfo{patching xcolor}
```

The print version:

\colorboxBlock \colorboxBlock is the same as \colorbox:

```
10987 \LetLtxMacro\colorboxBlock\colorbox
```

The original definition is reused by the new versions:

```
10988 \LetLtxMacro\LWR@orig@print\fcolorbox\fcolorbox
```

```
\fcolorbox [⟨framemode⟩] {⟨framecolor⟩} [⟨boxmodel⟩] {⟨boxcolor⟩} {⟨text⟩}
```

In print mode, \fcolorbox is modified to accept a background color of none.

(\fcolorbox is particular about its optional arguments, thus the elaborate combinations of \ifthenelse.)

```
10989 \newsavebox{\LWR@colorminipagebox}
10990
10991 \NewDocumentCommand{\LWR@print\fcolorbox}{o m o m +m}{%
10992 \LWR@traceinfo{\LWR@print\fcolorbox #2 #4}}%
```

Pre-load the contents into an LR box so that they can be used inside a \fcolorbox:

```
10993 \begin{lrbox}{\LWR@colorminipagebox}%
10994 #5%
10995 \end{lrbox}%
```

Sort out the various optional arguments and the background color of none. In each case, the LRbox is placed inside a \fcolorbox.

The current color is remembered, then set to the frame, then the current color is used for the contents.

```
10996 \ifstreq{\#4}{none}%
10997 {%
10998   \LWR@traceinfo{background is none}%
10999   \% scope the \colorlet
11000     \colorlet{\LWR@currentcolor}{.}%
11001     \color{\#2}%
11002     \fbox{%
11003       \color{\LWR@currentcolor}%
11004       \usebox{\LWR@colorminipagebox}%
11005     }%
11006   }%
11007 }%
11008 {%
11009 \LWR@traceinfo{background not none}%
11010 \IfValueTF{\#1}%
11011 {%
11012   \IfValueTF{\#3}%
11013   {\LWR@orig@print\fcolorbox[#1]{\#2}{\#3}{\#4}{\usebox{\LWR@colorminipagebox}}}%
11014   {\LWR@orig@print\fcolorbox[#1]{\#2}{\#4}{\usebox{\LWR@colorminipagebox}}}%
11015 }
```

```

11015 }%
11016 {%
11017     \IfValueTF{#1}%
11018     {\LWR@orig@print@fcolorbox{#2}[#3]{#4}{\usebox{\LWR@colorminipagebox}}}{%
11019     {\LWR@orig@print@fcolorbox{#2}{#4}{\usebox{\LWR@colorminipagebox}}}}%
11020 }% no value #1
11021 }% #4 not none
11022 \LWR@traceinfo{\LWR@print@fcolorbox done}%
11023 }

11024 \renewrobustcmd*\fcolorbox{\LWR@print@fcolorbox}%

```

\fcolorboxBlock [⟨framemode⟩] {⟨framecolor⟩} [⟨boxmodel⟩] {⟨boxcolor⟩} {⟨text⟩}

In print mode, \fcolorboxBlock is the same as \fcolorbox.

```

11025 \newcommand*\fcolorboxBlock{\LWR@print@fcolorbox}
11026 \newrobustcmd*\fcolorboxBlock{\LWR@print@fcolorboxBlock}

```

Env fcolorminipage [⟨1:framemode⟩] {⟨2:framecolor⟩} [⟨3:boxmodel⟩] {⟨4:boxcolor⟩} [⟨5:align⟩] [⟨6:height⟩] [⟨7:inner-align⟩] {⟨8:width⟩}

In print mode, becomes a \fcolorbox containing a minipage:

```

11027 \NewDocumentEnvironment{\LWR@print@fcolorminipage}{o m o m O{c} O{} o m}
11028 {%
11029 \LWR@traceinfo{*** fcolorminipage: #2 #4 #8}%

```

Pre-load the contents into an LR box so that they can be used inside a \fcolorbox:

```
11030 \begin{lrbox}{\LWR@colorminipagebox}%
```

If inner alignment is not given, use the outer alignment instead:

```

11031 \IfValueTF{#7}%
11032 {\begin{minipage}[#5][#6][#7]{#8}}{%
11033 {\begin{minipage}[#5][#6][#5]{#8}}{%
11034 }%
11035 {%
11036 \end{minipage}}%
11037 \end{lrbox}%
11038 \LWR@traceinfo{*** starting end fcolorminipage #1 #2 #3 #4 #8}%

```

Sort out the various optional arguments and the background color of none. In each case, the LRbox is placed inside a \fcolorbox.

The current color is remembered, then set to the frame, then the current color is used for the contents.

```

11039 \ifstreq{#4}{none}%
11040 {%

```

```

11041    {%
11042        scope the \colorlet
11043        \colorlet{LWR@currentcolor}{.}%
11044        \color{#2}%
11045        \fbox{%
11046            \color{LWR@currentcolor}%
11047            \usebox{\LWR@colorminipagebox}%
11048        }% fbox
11049    }% colorlet
11049 }% #4 none
11050 {%
11051    \IfValueTF{#1}%
11052    {%
11053        \IfValueTF{#3}%
11054        {\LWR@orig@print@fcolorbox[#1]{#2}{#3}{#4}{\usebox{\LWR@colorminipagebox}}}%
11055        {\LWR@orig@print@fcolorbox[#1]{#2}{#4}{\usebox{\LWR@colorminipagebox}}}%
11056    }%
11057    {%
11058        \IfValueTF{#3}%
11059        {\LWR@orig@print@fcolorbox[#2]{#3}{#4}{\usebox{\LWR@colorminipagebox}}}%
11060        {\LWR@orig@print@fcolorbox[#2]{#4}{\usebox{\LWR@colorminipagebox}}}%
11061    }%
11062 }% no value #1
11062 }% #4 not none
11063 \LWR@traceinfo{*** finished end fcolorminipage}%
11064 }

11065 \NewDocumentEnvironment{fcolorminipage}{}%
11066     {\LWR@print@fcolorminipage}%
11067     {\endLWR@print@fcolorminipage}

11068 \LWR@traceinfo{xcolor patches done}
11069 }% xcolor loaded
11070 }% AtBeginDocument

11071 \end{warpall}

```

86 chemmacros environments

\makepolymerdelims and redox reactions must be enclosed in a `lateximage` during HTML output. These environments are provided here in print mode, and in the chemmacros code in HTML mode, as a high-level semantic syntax which automatically embeds the contents in a `lateximage` with an appropriate alt tag.

for PRINT output: 11072 \begin{warpprint}

```

11073 \AtBeginDocument{%
11074 \@ifpackageloaded{chemmacros}{%
Env polymerdelims
11075 \DeclareDocumentEnvironment{polymerdelims}{}%
11076     {}{}%

```

Env redoxreaction {*<space above>*} {*<space below>*}

For print output, extra space is include above and below the image, and a `\lateximage` is not necessary. This extra space must be enforced, even inside a float, so zero-width rules are used.

For the HTML version, see section [177.4](#).

```
11077 \DeclareDocumentEnvironment{redoxreaction}{m m}
11078     {\rule{0pt}{#1}}{\rule[-#2]{0pt}{#2}}
11079 }{}% chemmacros
11080 }% AtBeginDocument
11081 \end{warpprint}
```

87 cleveref

Pkg cleveref cleveref package is used as-is with minor patches.

⚠ cleveref page numbers cleveref and varioref are supported, but printed page numbers do not map to HTML, so a section name or a text phrase are used for `\cpageref` and `\cpagerefrange`. This phrase includes `\cpagerefFor`, which defaults to “for”.

Ex:

```
\cpageref{tab:first,tab:second}
in html becomes:
“pages for table 4.1 and for table 4.2”
```

See `\cpagerefFor` at page [551](#) to redefine the message which is printed for page number references.

loading order cleveref and the following associated macro patches are automatically preloaded at the end of the preamble via `\AtEndPreamble` and `\AfterEndPreamble`. This is done because the HTML conversion requires cleveref. The user’s document may not require cleveref, thus the user may never explicitly load it, so during HTML output lwarf loads it last. If the user’s document preamble uses cleveref options, or functions such as `\crefname`, then cleveref may be loaded in the user’s preamble near the end, and lwarf’s additional loading of cleveref will have no effect.

Table [12](#) on page [471](#) shows the data structure of the label/reference system as revised by lwarf and cleveref.

A few patches allow cleveref to work as-is:

for HTML output: 11082 `\begin{warppHTML}`

`\AtEndPreable` forces cleveref to be loaded last:

```
11083 \AtEndPreamble{
11084     \RequirePackage{cleveref}
11085 }
```

The following patches are applied after `cleveref` has loaded, and after `\AtBeginDocument`. Print-mode versions are not required since they all come down to `\ref` eventually, and `\ref` has a print-mode version.

```

11086 \AfterEndPreamble{
11087 \LWR@traceinfo{Patching cleveref.}

\@@@setcref  {<kindofref>} {<label>}
              @templabel becomes the section number.

11088 \def\LWR@orig@@@setcref#1#2{\cref@getlabel{#2}{\@templabel}#1{\@templabel}{}{}}
11089
11090 \ifdefequal{\@@@setcref}{\LWR@orig@@@setcref}{% before v0.21
11091     \renewcommand*{\@@@setcref}[2]{#1{\ref{#2}}{}{}}
11092 }{
11093     \ifdefequal{\@@@setcref}{\LWR@orig@@@setcref}{% as of v0.21
11094         \renewcommand*{\@@@setcref}[2]{#1{\ref{#2}}{}{}}
11095     }{
11096         \PackageWarning{lwarp-cleveref}{%
11097             Unknown version of cleveref.
11098             \protect\cref\space will fail.
11099         }%
11100     }
11101 }

\@@@setcrefrange  {<text>} {<label>} {<label>}
11102 \def\LWR@orig@@@setcrefrange#1#2#3{%
11103     \cref@getlabel{#2}{\@labela}%
11104     \cref@getlabel{#3}{\@labelb}%
11105     #1{\@labela}{\@labelb}{}{}{}%
11106
11107 \ifdefequal{\@@@setcrefrange}{\LWR@orig@@@setcrefrange}{%
11108     \renewcommand{\@@@setcrefrange}[3]{%
11109         #1{\ref{#2}}{\ref{#3}}{}{}{}%
11110     }
11111 }{
11112     \ifdefequal{\@@@setcrefrange}{\LWR@orig@@@setcrefrange}{%
11113         \renewcommand{\@@@setcrefrange}[3]{%
11114             #1{\ref{#2}}{\ref{#3}}{}{}{}%
11115         }
11116     }{
11117         \PackageWarning{lwarp-cleveref}{%
11118             Unknown version of cleveref.
11119             \protect\crefrange\space will fail.
11120         }
11121     }
11122 }
11123

```

`\cpagerefFor` Redefinable word between “page(s)” and the page numbers.

```
11124 \newcommand*{\cpagerefFor}{for}

\@@@setcpageref {<typeofref>} {<label>}, where typeofref is “page” or “pages”

11125 \def\LWR@orig@@setcpageref#1#2{% before v0.21
11126   \cref@getpageref{#2}{\@temppage}#1{\@temppage}{}}%
11127
11128 \def\LWR@orig@@setcpageref#1#2{% as of v0.21
11129   \cpageref@getlabel{#2}{\@temppage}#1{\@temppage}{}}%
11130
11131 \ifdefequal{\@@@setcpageref}{\LWR@orig@@setcpageref}{
11132   \renewcommand*{\@@@setcpageref}[2]{%
11133     #1{\cpagerefFor\ \cref{#2}}{}{}%}
11134   }
11135 }{
11136   \ifdefequal{\@@@setcpageref}{\LWR@orig@@setcpageref}{
11137     \renewcommand*{\@@@setcpageref}[2]{%
11138       #1{\cpagerefFor\ \cref{#2}}{}{}%}
11139     }
11140   }
11141   {
11142     \PackageWarning{lwarp-cleveref}{%
11143       Unknown version of cleveref.
11144       \protect\cpageref\space will fail.
11145     }
11146   }
11147 }

11148 \def\LWR@orig@@setcpagerefrange#1#2#3{% before v0.21
11149   \cref@getpageref{#2}{\@pagea}%
11150   \cref@getpageref{#3}{\@pageb}%
11151   #1{\@pagea}{\@pageb}{}{}{}%
11152
11153 \def\LWR@orig@@setcpagerefrange#1#2#3{% as of v0.21
11154   \cpageref@getlabel{#2}{\@pagea}%
11155   \cpageref@getlabel{#3}{\@pageb}%
11156   #1{\@pagea}{\@pageb}{}{}{}%
11157
11158 \ifdefequal{\@@@setcpagerefrange}{\LWR@orig@@setcpagerefrange}{
11159   \renewcommand*{\@@@setcpagerefrange}[3]{%
11160     #1{\cpagerefFor\ \cref{#2}}{\cref{#3}}{}{}{}%}
11161   }
11162 }{
11163   \ifdefequal{\@@@setcpagerefrange}{\LWR@orig@@setcpagerefrange}{
11164     \renewcommand*{\@@@setcpagerefrange}[3]{%
11165       #1{\cpagerefFor\ \cref{#2}}{\cref{#3}}{}{}{}%}
11166     }
11167   }
11168   {
11169     \PackageWarning{lwarp-cleveref}{%
11170       Unknown version of cleveref.
11171       \protect\cpagerefrange\space will fail.
11172     }
11173   }
11174 }
```

```
11175
11176 }% AfterEndPreamble
```

Remember and patch some label-related definitions. These will be further encased and patched by other packages later.

\label and \pageref do NOT change their behavior according to print or HTML output, and thus do not use the \LWR@formatted system.

```
11177 \LetLtxMacro{\LWR@orig}{\label}
11178 \RenewDocumentCommand{\label}{}{\LWR@new@label}
11179
11180 \LetLtxMacro{\LWR@orig}{\pageref}
11181 \RenewDocumentCommand{\pageref}{}{\LWR@new@pageref}
11182 \end{warpHTML}
```

88 picture environment

Env picture The picture environment is enclosed inside a \latextimage.

for HTML output: 11183 \begin{warpHTML}

Env picture

```
11184 \BeforeBeginEnvironment{picture}{\begin{latextimage}[picture]}
11185
11186 \AfterEndEnvironment{picture}{\end{latextimage}}
11187 \end{warpHTML}
```

89 Minipages and Boxes

A css flexbox is used for minipages and parboxes, allowing external and internal vertical positioning.

⚠ inline A line of text with an inline \minipage or \parbox will have the \minipage or \parbox placed onto its own line, because a paragraph is a block element and cannot be made inline-block.

placement \minipages and \parboxes will be placed side-by-side in HTML unless you place a \newline between them.

side-by-side Side-by-side \minipages may be separated by \quad, \qquad, \enskip, \hspace, \hfill, or a \rule. When inside a center environment, the result is similar in print and HTML. Paragraph tags are suppressed between side-by-side \minipages and these spacing commands, but not at the start or end of the paragraph.

⚠ minipage in a span There is limited support for \minipages inside an HTML . An HTML <div> can-

not appear inside a . While in a , minipages, and \parboxes, and any enclosed lists have limited HTML tags, resulting in an “inline” format, without markup except for HTML breaks. Use \newline or \par for an HTML break.

⚠ minipage size When using minipage, \parbox, and fminipage, a virtual 6 × 9 inch text area is used for \linewidth, \textwidth, and \textheight, both for sizing the minipage, and also for its contents.

if width is \linewidth If a minipage or \parbox is assigned a width of exactly \linewidth, in HTML it is automatically given no HTML width, thus allowed to fill the line as needed, similar to how it appears in print output.

full-width if HTML A new macro \minipagefullwidth requests that, during HTML output, the next single minipage or \parbox be generated without an HTML width attribute, allowing it to be the full width of the display rather than the declared print-output width. This may be useful where the printed version’s width makes no sense in HTML.

⚠ tabular, multicols Inside a tabular or multicols environment, where the width depends on the browser window, \minipagefullwidth is effectively used by default for every minipage or \parbox inside the environment. \UseMinipageWidths may be used to tell lwarp to honor the specified widths of all following minipages and \parboxes until the end of the local scope, and \IgnoreMinipageWidths may be used to tell lwarp to ignore the specified widths.

⚠ multicol Inside a multicols, \linewidth is divided by the specified number of columns.

⚠ text alignment Nested minipages adopt their parent’s text alignment in HTML, whereas in regular L^AT_EX PDF output they do not. Use a flushleft or similar environment in the child minipage to force a text alignment.

for HTML output: 11188 \begin{warpHTML}

89.1 Computed lengths

Len \LWR@minipagewidth Used to convert the width into printable units.

11189 \newlength{\LWR@minipagewidth}

Len \LWR@minipageheight Used to convert the height into printable units.

11190 \newlength{\LWR@minipageheight}

89.2 Virtual page size

Ctr \LWR@virtualpagedepth Used to only reset the line width at the outermost minipage.

11191 \newcounter{LWR@virtualpagedepth}
11192 \setcounter{LWR@virtualpagedepth}{0}

Env \LWR@setvirtualpage * [<columns>]

If not nesting a minipage, adjust `\linewidth`, `\textwidth`, and `\textheight` for a virtual 6×9 page, and start on a new PDF page to help prevent page overflows.

If starred, force a new page in the PDF before generating more HTML. This may be done to reduce the chance of page overflow when starting a new minipage.

The optional number of columns defaults to 1.

```

11193 \NewDocumentEnvironment{LWR@setvirtualpage}{s 0{1}}{%
11194     \ifnumequal{\value{LWR@virtualpagedepth}}{0}{%
11195         \IfBooleanT{#1}{\LWR@orignewpage}%
11196         \setlength{\linewidth}{6in/#2}%
11197         \setlength{\textwidth}{6in}%
11198         \setlength{\textheight}{9in}%
11199     }{%
11200     \addtocounter{LWR@virtualpagedepth}{1}%
11201 }%
11202 {\addtocounter{LWR@virtualpagedepth}{-1}}

```

89.3 Footnote handling

Also see section 59 for other forms of footnotes. Minipage footnotes are gathered in section 59.5, and then placed into the document in section 89.4.

89.4 Minipage handling

`Bool LWR@minipagefullwidth` Should the next minipage have no HTML width?

```

11203 \newbool{LWR@minipagefullwidth}
11204 \boolfalse{LWR@minipagefullwidth}

```

`Bool LWR@forceminipagefullwidth` Should the next minipage have no HTML width? Used to force full width for all minipages in an environment such as `tabular` or `multicols`, where the actual width depends on the browser width. Controlled by `\useminipagewidths` and `\ignoreminipagewidths`.

```

11205 \newbool{LWR@forceminipagefullwidth}
11206 \boolfalse{LWR@forceminipagefullwidth}

```

`\minipagefullwidth` Requests that the next minipage have no width tag in HTML:

for HTML output: 11207 `\newcommand*{\minipagefullwidth}{\global\booltrue{LWR@minipagefullwidth}}`

`\UseMinipageWidths` Locally requests that minipage widths be honored.

```

11208 \newcommand*{\UseMinipageWidths}{\boolfalse{LWR@forceminipagefullwidth}}

```

`\IgnoreMinipageWidths` Locally requests that minipage widths be ignored.

```
11209 \newcommand*{\IgnoreMinipageWidths}{\booltrue{LWR@forceminipagefullwidth}}
11210 \end{warpHTML}
```

for PRINT output:

```
11211 \begin{warpprint}
11212 \newcommand*{\minipagefullwidth}{}%
11213 \newcommand*{\UseMinipageWidths}{}%
11214 \newcommand*{\IgnoreMinipageWidths}{}%
11215 \end{warpprint}
```

for HTML output:

```
11216 \begin{warpHTML}
```

Bool LWR@minipagethispar Has a minipage been seen this paragraph? If true, prevents paragraph tags around horizontal space between minipages.

```
11217 \newbool{LWR@minipagethispar}
11218 \boolfalse{LWR@minipagethispar}
```

Env minipage [*vert position*] [*height*] [*inner vert position*] {*width*}

The vertical positions may be 'c', 't', or 'b'. The inner position may also be 's'.

When using \linewidth, \textwidth, or \textheight, these are scaled proportionally to a 6x9 inch text area.

```
11219 \NewDocumentEnvironment{LWR@HTML@sub@minipage}{m m m m}
11220 {%
11221 \LWR@traceinfo{minipage}}%
```

Start an environment, in which width and height is computed based on a virtual page size instead of the extra-large PDF page used during HTML tag generation.

```
11222 \begin{LWR@setvirtualpage}*
```

Save the requested width now that \linewidth, etc. are adjusted to virtual size.

```
11223 \setlength{\LWR@minipagewidth}{#4}%
11224 \ifnumequal{\value{LWR@virtualpagedepth}}{1}{%
11225   \addtolength{\LWR@minipagewidth}{3em}%
11226 }{%
11227 \LWR@traceinfo{computed width is \LWR@printlength{\LWR@minipagewidth}}%
```

Compute height:

```
11228 \setlength{\LWR@minipageheight}{\textheight}%
11229 \ifblank{#2}{\setlength{\LWR@minipageheight}{#2}}%
```

LATEX wants to start a paragraph for the virtual minipage, then start a paragraph again for the contents of the minipage, so cancel the paragraph tag handling until the minipage has begun.

```
11230 \ifbool{FormatWP}{\newline}{%
11231 \LWR@stopars%
```

If FormatWP, add a text frame:

```
11232 \ifbool{FormatWP}{%
11233
11234 \addtocounter{LWR@thisautoidWP}{1}%
11235 \LWR@htmlltag{%
11236     div id="LWR@print@mbox{autoidWP-\arabic{LWR@thisautoidWP}}" %
11237     class="wpminipage"%
11238 }%
11239
11240 }{ }%
```

Create the <div> tag with optional alignment style:

```
11241 \LWR@traceinfo{minipage: creating div class}%
11242 \LWR@htmlltag{div class="minipage" style="%"%
11243 \ifthenelse{\equal{#1}{t}}{\LWR@print@mbox{vertical-align:bottom} ; }{ }%
11244 \ifthenelse{\equal{#1}{c}}{\LWR@print@mbox{vertical-align:middle} ; }{ }%
11245 \ifthenelse{\equal{#1}{b}}{\LWR@print@mbox{vertical-align:top} ; }{ }%
11246 \ifthenelse{\equal{#3}{t}}{\LWR@print@mbox{justify-content:flex-start} ; }{ }%
11247 \ifthenelse{\equal{#3}{c}}{\LWR@print@mbox{justify-content:center} ; }{ }%
11248 \ifthenelse{\equal{#3}{b}}{\LWR@print@mbox{justify-content:flex-end} ; }{ }%
11249 \ifthenelse{\equal{#3}{s}}{\LWR@print@mbox{justify-content:space-between} ; }{ }%
```

Print the width and optional height styles:

```
11250 \LWR@traceinfo{minipage: about to print the width of \LWR@printlength{\LWR@minipagewidth}}%
11251 \ifbool{\LWR@minipagefullwidth}{%
11252 {\global\boolfalse{\LWR@minipagefullwidth}}%
11253 }%
11254 \ifbool{\LWR@forceminipagefullwidth}{%
11255   {}%
11256   {}%
11257     \ifdimequal{#4}{\linewidth}{%
11258       {}%
11259       {width:\LWR@printlength{\LWR@minipagewidth} ; }%
11260     }%
11261 }%
11262 \LWR@traceinfo{minipage: about to print the height}%
11263 \ifblank{#2}{\height:\LWR@printlength{\LWR@minipageheight} ; }%
11264 "}%
```

Finish with an empty line to start the contents on a new line.

```
11265
11266 % The preceding empty line is required.
```

Set the user-accessible line and text width and height values inside the virtual minipage. These do not affect the actual size of the PDF output, but are used by any reference to \linewidth, etc. inside the virtual minipage being created here. \LWR@minipagewidth was the original then padded by 3em, which is restored here. This is done instead of settings back to #4, in case #4 was \linewidth, which was changed to 6in above.

```
11267 \ifnumequal{\value{\LWR@virtualpagedepth}}{1}{%
```

```

11268     \addtolength{\LWR@minipagewidth}{-3em}%
11269 }{ }%
11270 \setlength{\linewidth}{\LWR@minipagewidth}%
11271 \LWR@print@raggedright%

```

Set minipage footnotes:

```

11272 \def\@mpfn{mpfootnote}%
11273 \def\thempfn{\thempfootnote}\c@mpfootnote\z@%
11274 \let\@footnotetext\@mpfootnotetext%

```

Resume paragraph tag handling for the contents of the minipage:

```

11275 \LWR@startpars%
11276 \ifboolexpr{bool{FormatWP} and bool{WPMarkMinipages}}{%
11277 === begin minipage ===
11278 }{ }%
11279 \LWR@traceinfo{minipage: finished starting the minipage}%
11280 }% finished \minipage
11281 \LWR@endminipage%
11282 }% \endminipage
11283 {%

```

Print pending minipage footnotes:

```

11284 \LWR@printpendingmpfootnotes%

```

End the environment with closing tag:

```

11285 \ifboolexpr{bool{FormatWP} and bool{WPMarkMinipages}}{%
11286 === end minipage ===
11287 }{ }%
11288 \LWR@stoppars%
11289 \ifbool{FormatWP}{%
11290 \LWR@htmlelementend{div}%
11291 \ifbool{FormatWP}{%
11292 \LWR@htmldivclassend{minipage}%
11293 \LWR@htmlelementend{div}%
11294 }{ }%
11295 \LWR@htmldivclassend{minipage}%
11296 }{ }%
11297 \LWR@htmldivclassend{minipage}%
11298 \LWR@htmlelementend{div}%
11299 \end{\LWR@setvirtualpage}%
11300 \LWR@startpars%
11301 \ifbool{FormatWP}{\newline}{ }%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

11302 \global\booltrue{\LWR@minipagethispar}%

```

```

11303 \LWR@traceinfo{LWR@minipage: done}%
11304 }
11305
11306 \NewDocumentEnvironment{LWR@HTML@minipage}{O{t} O{} O{t} m}
11307   {\LWR@HTML@sub@minipage[#1]{#2}{#3}{#4}}
11308   {\endLWR@HTML@sub@minipage}
11309
11310 \LWR@formattedeenv{minipage}
```

89.5 \parbox, \mbox, \makebox, \framebox, \fbox, \raisebox

for HTML output:

```
\parbox [⟨pos⟩] [⟨height⟩] [⟨inner-pos⟩] {⟨width⟩} {⟨text⟩}
```

A parbox uses the minipage code:

```

11311 \NewDocumentCommand{\LWR@HTML@parbox}{O{t} O{} O{t} m +m}
11312 {
11313 \LWR@traceinfo{parbox of width #4}%
11314 \begin{minipage}[#1][#2][#3]{#4}%
11315 #5
11316 \end{minipage}%
11317 }
11318
11319 \LWR@formattedeenv{parbox}
```

\mbox {⟨text⟩} Nullified for HTML.

```

11320 \newcommand*{\LWR@HTML@mbox}[1]{#1}%
11321
11322 \LWR@formattedeenv{mbox}
```

\LWR@makebox@paren {⟨width⟩} , {⟨height⟩}

Adds to the style in \LWR@temptwo.

```

11323 \NewDocumentCommand{\LWR@makebox@paren}{m m}{%
11324 \IfValueTF{#2}{%
11325   \setlength{\LWR@tempwidth}{#1\unitlength}%
11326   \setlength{\LWR@tempheight}{#2\unitlength}%
11327   \appto{\LWR@temptwo}{%
11328     \LWR@print@mbox{width:\LWR@printlength{\LWR@tempwidth}} ; % space
11329     \LWR@print@mbox{height:\LWR@printlength{\LWR@tempheight}} ; % space
11330   }%
11331 }{%
11332   \PackageError{lwarp}%
11333     {(width,height) is missing a comma ',' character}%
11334     {\protect\makebox\space and \protect\framebox\space accept
11335       a size in the format (width,height).}%
11336 }%
11337 }
```

\LWR@@makebox@align {*alignment character*}

Adds to the style in \LWR@temptwo.

```

11338 \newcommand*{\LWR@@makebox@align}[1]{%
11339     \def\LWR@align{center}%
11340     \ifstrequal{#1}{l}{\def\LWR@align{left}}{}%
11341     \ifstrequal{#1}{r}{\def\LWR@align{right}}{}%
11342     \ifstrequal{#1}{s}{\def\LWR@align{justify}}{}%
11343     \appto{\LWR@temptwo}{%
11344         \LWR@print@mbox{text-align:\LWR@align} ; %
11345     }%
11346 }
```

\makebox (<width,height>) [<width>] [<pos>] {<text>}

```
11347 \NewDocumentCommand{\LWR@HTML@makebox}{>{\SplitArgument{1}{,}}d() o o +m}{%
```

Build the style depending on arguments:

```

11348 \begin{\LWR@setvirtualpage}%
11349     \def\LWR@temptwo{}%
11350     \IfValueTF{#1}%
11351     {%
11352         (\width,\height) ..
11353         \LWR@@makebox@paren #1%
11354         \IfValueT{#2}%
11355         {%
11356             (\width,\height) [posn]
11357             \LWR@@makebox@align{#2}%
11358         }%
11359     }%
11360     {[width]
11361         \IfValueT{#2}{ [width]}
11362         \setlength{\LWR@tempwidth}{#2}%
11363         \ifdimgreater{\LWR@tempwidth}{0pt}{%
11364             \appto{\LWR@temptwo}{%
11365                 width:\LWR@printlength{\LWR@tempwidth} ; % space
11366             }%
11367         }%
11368     }%
11369     \IfValueT{#3}%
11370     {%
11371         {[width] [posn]
11372             \LWR@@makebox@align{#3}%
11373         }%
11374         \InLineClass[%
11375             \LWR@print@mbox{display:inline-block} ; %
11376             \LWR@temptwo%
11377         ]%
11378         {#4}%
11379     \end{\LWR@setvirtualpage}%
11380 }%
11381 \LWR@formatted{makebox}
```

```
\framebox {<width,height>} [<width>] [<pos>] {<text>}

11382 \NewDocumentCommand{\LWR@HTML@framebox}{d() o o +m}{%
11383     \fbox{\makebox[#1][#2][#3]{#4}}%
11384 }
11385
11386 \LWR@formatted{framebox}
```

\LWR@forceminwidth {<length>}

Sets \LWR@atleastonept to be at least 1pt.

```
11387 \newlength{\LWR@atleastonept}
11388
11389 \newcommand*{\LWR@forceminwidth}[1]{%
11390 \setlength{\LWR@atleastonept}{#1}%
11391 \ifthenelse{%
11392     \lengthtest{\LWR@atleastonept>0pt}\AND%
11393     \lengthtest{\LWR@atleastonept<1pt}}%
11394 }%
11395     {\setlength{\LWR@atleastonept}{1pt}}%
11396     {}%
11397 }
```

\LWR@fboxstyle Prints the HTML attributes for a black border and padding.

\LWR@forceminwidth must be used first in order to set the border width.

```
11398 \newcommand*{\LWR@fboxstyle}{%
11399 \LWR@findcurrenttextcolor%
11400 border:\LWR@printlength{\LWR@atleastonept} solid \LWR@origpound\LWR@tempcolor ; %
11401 padding:\LWR@printlength{\fboxsep} ; %
11402 color:\LWR@origpound\LWR@tempcolor%
11403 }
```

\fbox {<text>}

Creates a framed inline span enclosing the text.

Create a new HTML version, but don't use it until after xcolor may have loaded:

```
11404 \newcommand{\LWR@HTML@fbox}[1]{%
11405 \LWR@traceinfo{HTML fbox}%
11406 \LWR@forceminwidth{\fboxrule}%
11407 \InlineClass[%
11408     \LWR@print@mbox{display:inline-block} ; %
11409     \LWR@fboxstyle%
11410 ]{\fbox}{#1}%
11411 }
```

xcolor \lets things to \fbox when it is loaded, and this must remain even for HTML output while in a lateximage, so \fbox is not modified until \AtBeginDocument:

```
11412 \AtBeginDocument{\LWR@formatted{fbox}}
```

\fboxBlock {*text*} Creates a framed HTML <div> of the text.

First, a print-mode version. This is newly defined for print mode, so it is defined inside `warpall`.

for HTML & PRINT:

```
11413 \end{warpHTML}
11414 \begin{warpall}
11415 \let\fboxBlock\fbox
11416 \end{warpall}
11417
11418 \begin{warpHTML}
```

for HTML output: Next, an HTML version:

```
11419 \newcommand{\LWR@HTML\fboxBlock}[1]{%
11420 \LWR@forceminwidth{\fboxrule}%
11421 \LWR@stoppars%
11422 \begin{BlockClass}[%%
11423 \LWR@fboxstyle%
11424 ]{\fboxBlock}%
11425 #1%
11426 \end{BlockClass}%
11427 \LWR@startpars%
11428 }%
11429
11430 \LWR@formatted{\fboxBlock}%
11431
11432 \end{warpHTML}
```

Env fminipage [*align*] [*height*] [*align*] {*width*}

Creates a framed HTML <div> around its contents.

for HTML & PRINT: Print version:

```
11433 \begin{warpall}
11434
11435 \newsavebox{\LWR@fminipagebox}%
11436
11437 \NewDocumentEnvironment{\LWR@print\fminipage}{O{t} o O{t} m}%
11438 {%
```

An outer minipage will be used for vertical alignment. An inner minipage will be framed with `\fbox`.

If the optional inner alignment is not given, use the outer instead:

```
11439 \IfValueTF{#3}{%
11440 {\def\LWR@thisalign{#3}}%
11441 {\def\LWR@thisalign{#1}}%}
```

Form the outer minipage depending on whether a height was given. Make the outer minipage larger to compensate for the frame.

```
11442 \IfValueTF{#2}{%
```

```
11443 {\minipage[#1][#2+2\fboxsep+2\fboxrule][\LWR@thisalign]{#4+2\fboxsep+2\fboxrule}}%
11444 {\minipage[#1]{#4+2\fboxsep+2\fboxrule}}%
```

Capture the contents of the environment:

```
11445 \begin{lrbox}{\LWR@fminipagebox}%
```

Nest the contents inside an inner minipage of the desired size:

```
11446 \IfValueT{#2}{%
11447 {\minipage[#1][#2][\LWR@thisalign]{#4}}%
11448 {\minipage[#1]{#4}}%
11449 }%
11450 {%
```

Close the inner minipage and the LR box with the contents:

```
11451 \endminipage%
11452 \end{lrbox}%
```

Create a frame around the contents of the environment:

```
11453 \fbox{\usebox{\LWR@fminipagebox}}%
```

The entire thing is placed inside the outer minipage:

```
11454 \endminipage%
11455 }%
11456
11457 \LetLtxMacro\fminipage\LWR@print@fminipage
11458 \LetLtxMacro\endfminipage\endLWR@print@fminipage
11459 % \newenvironment{fminipage}{\LWR@print@fminipage}{\endLWR@print@fminipage}
11460
11461 \end{warpall}
```

HTML version:

for HTML output:

```
11462 \begin{warpHTML}%
11463
11464 \NewDocumentEnvironment{\LWR@HTML@fminipage}{O{t} o O{t} m}%
11465 {%
11466 \LWR@traceinfo{fminipage #1 #2 #3 #4}}%
```

Locally change to the virtual page size before processing the requested sizes:

```
11467 \begin{LWR@setvirtualpage}*%
11468 \setlength{\LWR@tempwidth}{#4}%
11469 \IfValueT{#2}{\setlength{\LWR@tempheight}{#2}}%
```

Use a rule of at least one pixel in width:

```
11470 \LWR@forceminwidth{\fboxrule}%
```

```
11471 \LWR@stopars%
```

```

11472 \begin{BlockClass}[%  

11473 \LWR@fboxstyle ; %  

11474 \IfValueT{\#2}{height:\LWR@printlength{\LWR@tempheight} ; }%  

11475 \ifbool{\LWR@minipagefullwidth}{%  

11476 {\global\boolfalse{\LWR@minipagefullwidth}}%  

11477 {  

11478     \ifbool{\LWR@forceminipagefullwidth}{%  

11479         {}%  

11480         {  

11481             \ifdimequal{\LWR@tempwidth}{\linewidth}{%  

11482                 {}%  

11483                 {width:\LWR@printlength{\LWR@tempwidth} ; }%  

11484             }%  

11485 }%  

11486 ]{\fminipage}{%  

11487 }  

11488 {  

11489 \end{BlockClass}%  

11490 \end{\LWR@setvirtualpage}%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

11491 \global\booltrue{\LWR@minipagethispar}%
11492 \LWR@traceinfo{fminipage done}%
11493 }%
11494
11495 \LWR@formattede{fminipage}

\raisebox{\raiseboxlen}{\textcolor{gray}{\textit{height}}}{\textcolor{gray}{\textit{depth}}}{\textcolor{gray}{\textit{text}}}

11496 \NewDocumentCommand{\LWR@HTML@raisebox}{m o o m}{%
11497 #4%
11498 }%
11499
11500 \LWR@formatted{raisebox}

11501 \end{warpHTML}

```

90 Direct formatting

⚠ **\bfseries, etc.** `\textbf`, etc. are supported, but `\bfseries`, etc. work only in some situations.

⚠ **HTML special chars** `&`, `<`, and `>` have special meanings in HTML. If `\&`, `\textless`, and `\textgreater` are used, proper HTML entities will be used, but there may be HTML parsing problems if these special characters occur unescaped in program listings or other verbatim text.

program listings For program listings, the `listings` package is supported, and its `literate` option is used to convert `&`, `<`, and `>` to proper HTML entities.

verbatim The various `verbatim`-related environments do not convert `&`, `<`, and `>`, so care must

be taken to avoid accidentally including valid HTML code inside these environments. Adding a space on either side may be sufficient.

For high-level block and inline custom css classes, see section [51.9](#).

for HTML output: 11502 \begin{warpHTML}

```
\emph  {\langle text\rangle}

11503 \DeclareRobustCommand{\LWR@HTML@emph}[1]{%
11504   {%
11505     \LWR@HTML@itshape%
11506     \LWR@htmlspan{em}{#1}%
11507   }%
11508 }
11509
11510 \LWR@formatted{emph}
11511
11512 \newcommand{\LWR@null@emph}[1]{#1}
```

```
\textmd  {\langle text\rangle}

11513 \DeclareRobustCommand{\LWR@HTML@textmd}[1]{%
11514   {%
11515     \LWR@HTML@mdseries%
11516     \InlineClass(font-weight:normal){textmd}{#1}%
11517   }%
11518 }
11519
11520 \LWR@formatted{textmd}
11521
11522 \newcommand{\LWR@null@textmd}[1]{#1}
```

```
\textbf  {\langle text\rangle}

11523 \DeclareRobustCommand{\LWR@HTML@textbf}[1]{%
11524   {%
11525     \LWR@HTML@bfseries%
11526     \LWR@htmlspan{b}{#1}%
11527   }%
11528 }
11529
11530 \LWR@formatted{textbf}
11531
11532 \newcommand{\LWR@null@textbf}[1]{#1}
```

\texteb {\langle text\rangle} From [nfssext-cfr](#).

```
11533 \DeclareRobustCommand{\LWR@HTML@texteb}[1]{%
11534   {%
11535     \LWR@HTML@ebweight%
11536     \InlineClass{texteb}{#1}%
11537 }
```

```
11537      }%
11538 }
11539
11540 \LWR@formatted{texteb}
11541
11542 \newcommand{\LWR@null@texteb}[1]{#1}

\textlg  {\langle text\rangle}      From nfssext-cfr.

11543 \DeclareRobustCommand{\LWR@HTML@textlg}[1]{%
11544   {%
11545     \LWR@HTML@lgweight%
11546     \InlineClass{textlg}{#1}%
11547   }%
11548 }
11549
11550 \LWR@formatted{textlg}
11551
11552 \newcommand{\LWR@null@textlg}[1]{#1}

\textrm  {\langle text\rangle}

11553 \DeclareRobustCommand{\LWR@HTML@textrm}[1]{%
11554   {%
11555     \LWR@HTML@rmfamily%
11556     \InlineClass{font-family:serif}{textrm}{#1}%
11557   }%
11558 }
11559
11560 \LWR@formatted{textrm}
11561
11562 \newcommand{\LWR@null@textrm}[1]{#1}

\textsf  {\langle text\rangle}

11563 \DeclareRobustCommand{\LWR@HTML@textsf}[1]{%
11564   {%
11565     \LWR@HTML@sffamily%
11566     \InlineClass{font-family:sans}{textsf}{#1}%
11567   }%
11568 }
11569
11570 \LWR@formatted{textsf}
11571
11572 \newcommand{\LWR@null@textsf}[1]{#1}

\texttt  {\langle text\rangle}

11573 \DeclareRobustCommand{\LWR@HTML@texttt}[1]{%
11574   {%
11575     \LWR@HTML@ttfamily%
11576     \LWR@htmlspan{kbd}{#1}%
11577 }
```

```
11577      }%
11578 }
11579
11580 \LWR@formatted{texttt}
11581
11582 \newcommand{\LWR@null@texttt}[1]{#1}

\textrmup {<text>}

11583 \DeclareRobustCommand{\LWR@HTML@textrmup}[1]{%
11584   {%
11585     \LWR@HTML@upshape%
11586     \InlineClass{font-style: normal}{textrmup}{#1}%
11587   }%
11588 }
11589
11590 \LWR@formatted{textrmup}
11591
11592 \newcommand{\LWR@null@textrmup}[1]{#1}

\textrmit {<text>}

11593 \DeclareRobustCommand{\LWR@HTML@textrmit}[1]{%
11594   {%
11595     \LWR@HTML@itshape%
11596     \LWR@htmlspan{i}{#1}%
11597   }%
11598 }
11599
11600 \LWR@formatted{textrmit}
11601
11602 \newcommand{\LWR@null@textrmit}[1]{#1}

\textrmsc {<text>}

11603 \DeclareRobustCommand{\LWR@HTML@textrmsc}[1]{%
11604   {%
11605     \LWR@HTML@scshape%
11606     \InlineClass{textsc}{#1}%
11607   }%
11608 }
11609
11610 \LWR@formatted{textrmsc}
11611
11612 \newcommand{\LWR@null@textrmsc}[1]{#1}

\textrmlc {<text>} From fontaxes.

11613 \DeclareRobustCommand{\LWR@HTML@textrmlc}[1]{%
11614   {%
11615     \LWR@HTML@ulcshape%
11616     \InlineClass{textulc}{#1}%

```

```
11617      }%
11618 }
11619
11620 \LWR@formatted{textulc}
11621
11622 \newcommand{\LWR@null@textulc}[1]{#1}

\texssi {<text>}

11623 \@ifundefined{textsi}{
11624     \LetLtxMacro{\LWR@print@texssi}{\LWR@print@textsc
11625 }{%
11626
11627 \DeclareRobustCommand{\LWR@HTML@texssi}[1]{%
11628     {%
11629         \LWR@HTML@sishape%
11630         \textsc{\textit{#1}}%
11631         \InlineClass(
11632             font-style: italic;
11633             font-variant: small-caps ;
11634             font-variant-numeric: oldstyle-nums ;
11635             ){texssi}{#1}%
11636     }%
11637 }
11638
11639 \LWR@formatted{textsi}
11640
11641 \newcommand{\LWR@null@texssi}[1]{#1}

\texssl {<text>}

11642 \DeclareRobustCommand{\LWR@HTML@texssl}[1]{%
11643     {%
11644         \slshape%
11645         \InlineClass(font-style:oblique){texssl}{#1}%
11646     }%
11647 }
11648
11649 \LWR@formatted{textssl}
11650
11651 \newcommand{\LWR@null@texssl}[1]{#1}

\textnormal {<text>}

11652 \DeclareRobustCommand{\LWR@HTML@textnormal}[1]{\textmd{\textrm{\textup{#1}}}}%
11653
11654 \LWR@formatted{textnormal}
11655
11656 \newcommand{\LWR@null@textnormal}[1]{#1}

11657 \newcommand{\LWR@null@rmfamily}{}%
11658 \newcommand{\LWR@null@sffamily}{}%
11659 \newcommand{\LWR@null@ttfamily}{}%
```

```

11660 \newcommand{\LWR@null@bfseries}{}
11661 \newcommand{\LWR@null@ebweight}{}
11662 \newcommand{\LWR@null@lgweight}{}
11663 \newcommand{\LWR@null@mdseries}{}
11664 \newcommand{\LWR@null@upshape}{}
11665 \newcommand{\LWR@null@slshape}{}
11666 \newcommand{\LWR@null@scshape}{}
11667 \newcommand{\LWR@null@itshape}{}
11668 \newcommand{\LWR@null@normalfont}{}

11669 \newcommand{\LWR@null@em}{}

```

\LWR@nullfonts Removes formatting during filename operations, file references, and HTML comments.

 **Use only inside a group.**

The following are *not* made robust, since they must be expanded to their nullified versions.

```

11670 \catcode`\$=\active% redefining $ below
11671 \catcode`\_=12% redefining \_ below
11672 \newcommand*\LWR@nullfonts{%
11673 \LetLtxMacro\emph\LWR@null@emph%
11674 \LetLtxMacro\textmd\LWR@null@textmd%
11675 \LetLtxMacro\textbf\LWR@null@textbf%
11676 \LetLtxMacro\textrm\LWR@null@textrm%
11677 \LetLtxMacro\textsf\LWR@null@textsf%
11678 \LetLtxMacro\texttt\LWR@null@texttt%
11679 \LetLtxMacro\textup\LWR@null@textup%
11680 \LetLtxMacro\textit\LWR@null@textit%
11681 \LetLtxMacro\textsc\LWR@null@textsc%
11682 \LetLtxMacro\textulc\LWR@null@textulc%
11683 \LetLtxMacro\texttsi\LWR@null@texttsi%
11684 \LetLtxMacro\textsl\LWR@null@textsl%
11685 \LetLtxMacro\textnormal\LWR@null@textnormal%
11686 \LetLtxMacro\rmfamily\LWR@null@rmfamily%
11687 \LetLtxMacro\sffamily\LWR@null@sffamily%
11688 \LetLtxMacro\ttfamily\LWR@null@ttfamily%
11689 \LetLtxMacro\bfseries\LWR@null@bfseries%
11690 \LetLtxMacro\mdseries\LWR@null@mdseries%
11691 \LetLtxMacro\upshape\LWR@null@upshape%
11692 \LetLtxMacro\slshape\LWR@null@slshape%
11693 \LetLtxMacro\scshape\LWR@null@scshape%
11694 \LetLtxMacro\ulcshape\LWR@null@ulcshape%

11695 \LetLtxMacro\sishape\LWR@null@sishape%
11696 \LetLtxMacro\itshape\LWR@null@itshape%
11697 \LetLtxMacro\normalfont\LWR@null@normalfont%
11698 \LetLtxMacro\em\LWR@null@em%

```

Various built-in symbols.

```
11699 \renewcommand*{\$}{-}%
11700 \renewcommand*{\%}{-}%
11701 \renewcommand*{\_}{-}%
11702 \renewcommand*{\}}{-}%
11703 \renewcommand*{\{}{-}%
11704 \renewcommand*{\&}{and}%
11705 \renewcommand*{\#}{-}%
11706 \renewcommand*{\,}{-}%
11707 \renewcommand*{\~}{-}%
11708 \renewcommand*{\^}[1]{-}%
11709 \renewcommand*{\~}[1]{-}%
11710 \renewcommand*{\newline}{-}%
11711 \renewcommand*{\textasciicircum}{-}%
11712 \renewcommand*{\textasciitilde}{-}%
11713 \renewcommand*{\textasteriskcentered}{-}%
11714 \renewcommand*{\textbackslash}{-}%
11715 \renewcommand*{\textbar}{-}%
11716 \renewcommand*{\textbardbl}{-}%
11717 \renewcommand*{\textbigcircle}{-}%
11718 \renewcommand*{\textbraceleft}{-}%
11719 \renewcommand*{\textbraceright}{-}%
11720 \renewcommand*{\textbullet}{-}%
11721 \renewcommand*{\textcopyright}{-}%
11722 \renewcommand*{\textdagger}{-}%
11723 \renewcommand*{\textdaggerdbl}{-}%
11724 \renewcommand*{\textdollar}{-}%
11725 \renewcommand*{\textellipsis}{-}%
11726 \renewcommand*{\textemdash}{-}%
11727 \renewcommand*{\textendash}{-}%
11728 \renewcommand*{\textexclamdown}{-}%
11729 \renewcommand*{\textgreater}{-}%
11730 \renewcommand*{\textless}{-}%
11731 \renewcommand*{\textordfeminine}{-}%
11732 \renewcommand*{\textordmasculine}{-}%
11733 \renewcommand*{\textparagraph}{-}%
11734 \renewcommand*{\textperiodcentered}{-}%
11735 \renewcommand*{\textpertenthousand}{-}%
11736 \renewcommand*{\textperthousand}{-}%
11737 \renewcommand*{\textquestiondown}{-}%
11738 \renewcommand*{\textquotedblleft}{-}%
11739 \renewcommand*{\textquotedblright}{-}%
11740 \renewcommand*{\textquotefirst}{-}%
11741 \renewcommand*{\textquoteright}{-}%
11742 \renewcommand*{\textregistered}{-}%
11743 \renewcommand*{\textsection}{-}%
11744 \renewcommand*{\textsterling}{-}%
11745 \renewcommand*{\texttrademark}{-}%
11746 \renewcommand*{\textunderscore}{-}%
11747 \renewcommand*{\textvisiblespace}{-}%
11748 \renewcommand*{\copyright}{-}%
11749 \renewcommand*{\dag}{-}%
11750 \renewcommand*{\ddag}{-}%
11751 \renewcommand*{\dots}{-}%
11752 \renewcommand*{\P}{-}%
11753 \renewcommand*{\pounds}{-}%
```

```
11754 \renewcommand*{\S}{-}%
11755 \renewcommand*{\aa}{a}%
11756 \renewcommand*{\AA}{A}%
11757 \renewcommand*{\AE}{Æ}%
11758 \renewcommand*{\ae}{æ}%
11759 \renewcommand*{\dh}{d}%
11760 \renewcommand*{\DH}{D}%
11761 \renewcommand*{\DJ}{D}%
11762 \renewcommand*{\dj}{d}%
11763 \renewcommand*{\IJ}{IJ}%
11764 \renewcommand*{\ij}{ij}%
11765 \renewcommand*{\L}{L}%
11766 \renewcommand*{\l}{l}%
11767 \renewcommand*{\NG}{NG}%
11768 \renewcommand*{\ng}{ng}%
11769 \renewcommand*{\O}{O}%
11770 \renewcommand*{\o}{o}%
11771 \renewcommand*{\oe}{oe}%
11772 \renewcommand*{\OE}{OE}%
11773 \renewcommand*{\ss}{ss}%
11774 \renewcommand*{\SS}{SS}%
11775 \renewcommand*{\th}{th}%
11776 \renewcommand*{\TH}{TH}%
11777 \renewcommand*{\guillemotleft}{}%
11778 \renewcommand*{\guilsinglleft}{}%
11779 \renewcommand*{\quotedblbase}{}%
11780 \renewcommand*{\textquotedbl}{}%
11781 \renewcommand*{\guillemotright}{}%
11782 \renewcommand*{\guilsinglright}{}%
11783 \renewcommand*{\quotesinglbase}{}%

11784 \renewcommand*{\HTMLunicode}[1]{}%
11785 \renewcommand*{\HTMLentity}[1]{}%

11786 \renewcommand{\textsuperscript}[1]{##1}%
11787 \renewcommand{\textsubscript}[1]{##1}%

11788 \renewcommand{\underline}[1]{##1}%

11789 \RenewDocumentCommand{\hspace}{s m}{}%
11790 \RenewDocumentCommand{\LWR@htmlspanclass}{o m +m}{}%
11791 \DeclareExpandableDocumentCommand{\InlineClass}{D{()}{}} o m +m{}%
```

Nullify math macros.

```
11792 \def\##1\\{}%
11793 \def\[##1\]\\{}%
11794 \RenewDocumentCommand{\LWR@subsingledollar}{s m m m}{}%
11795 \protected\def$##1$\\{}%
```

Nullify logos:

```

11796 \renewcommand*\{\TeX\}{TeX}%
11797 \renewcommand*\{\LaTeX\}{LaTeX}%
11798 \renewcommand*\{\LaTeXe\}{LaTeXe}%
11799 \renewcommand*\{\LuaTeX\}{LuaTeX}%
11800 \renewcommand*\{\LuaLaTeX\}{LuaLaTeX}%
11801 \renewcommand*\{\XeTeX\}{XeTeX}%
11802 \renewcommand*\{\XeLaTeX\}{XeLaTeX}%
11803 \renewcommand*\{\ConTeXt\}{ConTeXt}%
11804 \renewcommand*\{\BibTeX\}{BibTeX}%
11805 \renewcommand*\{\MakeIndex\}{MakeIndex}%
11806 \renewcommand*\{\AmS\}{AmS}%
11807 \renewcommand*\{\MiKTeX\}{MiKTeX}%
11808 \renewcommand*\{\LyX\}{LyX}%

```

Use the simpler form with `\texorpdfstring`:

```

11809 \let\texorpdfstring\relax%
11810 \newcommand{\texorpdfstring}[2]{##2}%
11811 }
11812 \catcode`\$=3%
11813 \catcode`\_=8%

```

`\FilenameNullify {<redefinitions>}`

Adds more nullifying definitions for filename generation.

```

11814 \newcommand*\{\FilenameNullify\}[1]{%
11815     \appto{\LWR@nullfonts}{#1}%
11816 }

```

Remembers the current font family, series, and shape. `fontaxes` support is integrated here.

```

11817 \newcommand*\{\LWR@f@family\}{rm}%
11818 \newcommand*\{\LWR@f@series\}{md}%
11819 \newcommand*\{\LWR@f@shape\}{up}%
11820 \newcommand*\{\LWR@f@shapecaps\}{ulc}%

```

`\LWR@textcurrentfont {<text>}`

Prints the text with the current font choices. Avoids nesting repeated font selections.

```

11821 \newcounter{LWR@textcurrentfontdepth}%
11822 \setcounter{LWR@textcurrentfontdepth}{0}%
11823 %
11824 \newcommand*\{\LWR@textcurrentfont\}[1]{%
11825     \ifnumcomp{\value{LWR@textcurrentfontdepth}}{>}{0}%
11826         %
11827             \addtocounter{LWR@textcurrentfontdepth}{1}%
11828             #1%
11829             \addtocounter{LWR@textcurrentfontdepth}{-1}%
11830     }%
11831     %

```

```

11832      \addtocounter{LWR@textcurrentfontdepth}{1}%
11833      \InlineClass{%
11834          text\LWR@f@family\LWR@origtilde{}%
11835          text\LWR@f@series\LWR@origtilde{}%
11836          text\LWR@f@shape\LWR@origtilde{}%
11837          text\LWR@f@shapecaps%
11838      }%
11839      {#1}%
11840      \addtocounter{LWR@textcurrentfontdepth}{-1}%
11841  }%
11842 }
```

Env LWR@blocktextcurrentfont Prints the contents with the current font choices.

```

11843 \newenvironment*{\LWR@blocktextcurrentfont}{%
11844 \LWR@stoppars%
11845 \BlockClass{%
11846     text\LWR@f@family\LWR@origtilde{}%
11847     text\LWR@f@series\LWR@origtilde{}%
11848     text\LWR@f@shape\LWR@origtilde{}%
11849     text\LWR@f@shapecaps%
11850 }%
11851 }{\endBlockClass\LWR@startpars}
```

\mdseries

```

11852 \newrobustcmd*{\LWR@HTML@mdseries}{\renewcommand*{\LWR@f@series}{md}}
11853 \LWR@formatted{mdseries}
```

\bfseries

```

11854 \newrobustcmd*{\LWR@HTML@bfseries}{\renewcommand*{\LWR@f@series}{bf}}
11855 \LWR@formatted{bfseries}
```

\ebweight From **nfssext-cfr**.

```

11856 \newrobustcmd*{\LWR@HTML@ebweight}{\renewcommand*{\LWR@f@series}{eb}}
11857 \LWR@formatted{ebweight}
```

\lgweight From **nfssext-cfr**.

```

11858 \newrobustcmd*{\LWR@HTML@lgweight}{\renewcommand*{\LWR@f@series}{lg}}
11859 \LWR@formatted{lgweight}
```

\rmfamily

```

11860 \newrobustcmd*{\LWR@HTML@rmfamily}{\renewcommand*{\LWR@f@family}{rm}}
11861 \LWR@formatted{rmfamily}
```

```
\sffamily
```

```
11862 \newrobustcmd*{\LWR@HTML@sffamily}{\renewcommand*{\LWR@f@family}{sf}}
11863 \LWR@formatted{sffamily}
```

```
\ttfamily
```

```
11864 \newrobustcmd*{\LWR@HTML@ttfamily}{\renewcommand*{\LWR@f@family}{tt}}
11865 \LWR@formatted{ttfamily}
```

```
\upshape
```

```
11866 \newrobustcmd*{\LWR@HTML@upshape}{\renewcommand*{\LWR@f@shape}{up}}
11867 \LWR@formatted{upshape}
```

```
\itshape
```

```
11868 \newrobustcmd*{\LWR@HTML@itshape}{\renewcommand*{\LWR@f@shape}{it}}
11869 \LWR@formatted{itshape}
```

```
\scshape
```

```
11870 \newrobustcmd*{\LWR@HTML@scshape}{\renewcommand*{\LWR@f@shapecaps}{sc}}
11871 \LWR@formatted{scshape}
```

```
\ulcshape From fontaxes.
```

```
11872 \@ifundefined{ulcshape}{
11873     \LetLtxMacro\ulcshape\upshape
11874 }%
11875 \newrobustcmd*{\LWR@HTML@ulcshape}{\renewcommand*{\LWR@f@shapecaps}{ulc}}
11876 \LWR@formatted{ulcshape}
```

```
\sishape
```

```
11877 \@ifundefined{sishape}%
11878     \LetLtxMacro\sishape\scshape
11879 }%
11880 \newrobustcmd*{\LWR@HTML@sishape}{%
11881     \renewcommand*{\LWR@f@shape}{it}
11882     \renewcommand*{\LWR@f@shapecaps}{sc}%
11883 }
11884 \LWR@formatted{sishape}
```

```
\slshape
```

```
11885 \newrobustcmd*{\LWR@HTML@slshape}{\renewcommand*{\LWR@f@shape}{sl}}
11886 \LWR@formatted{slshape}
```

```
\normalfont
```

```
11887 \newrobustcmd*{\LWR@HTML@normalfont}{\rmfamily\mdseries\upshape\ulcshape}  
11888 \LWR@formatted{normalfont}
```

```
\sp {<text>}
```

For **siunitx**. Must work in math mode.

```
11889 \renewcommand{\sp}[1]{\text{<sup>#1</sup>}{}}
```

```
\sb {<text>}
```

For **siunitx**. Must work in math mode.

```
11890 \renewcommand{\sb}[1]{\text{<sub>#1</sub>}{}}
```

```
\textsuperscript {<text>}
```

```
11891 \renewrobustcmd{\textsuperscript}[1]{\LWR@htmlspan{sup}{#1}}
```

```
\@textsuperscript {<text>}
```

```
11892 \renewcommand{\@textsuperscript}[1]{\LWR@htmlspan{sup}{#1}}
```

```
\textsubscript {<text>}
```

```
11893 \AtBeginDocument{  
11894 \renewrobustcmd{\textsubscript}[1]{\LWR@htmlspan{sub}{#1}}  
11895 }
```

```
\@textsubscript {<text>}
```

```
11896 \AtBeginDocument{  
11897 \renewcommand{\@textsubscript}[1]{\LWR@htmlspan{sub}{#1}}  
11898 }
```

\up {<text>} Prints superscript.

This is **\let** at the beginning of the document in case some other package has changed the definition.

```
11899 \AtBeginDocument{\let\up\textsuperscript}
```

\fup {<text>} Prints superscript.

Supports **fmtcount** package.

This is **\let** at the beginning of the document in case some other package has changed the definition.

```
11900 \AtBeginDocument{\let\fup\textsuperscript}

\underline {\langle text\rangle}

11901 \renewcommand{\underline}[1]{%
11902     \InlineClass{%
11903         (text-decoration:underline; text-decoration-skip: auto)%
11904         {underline}{#1}%
11905     }}

\LWR@overline {\langle text\rangle}

11906 \newcommand{\LWR@overline}[1]{%
11907     \InlineClass{%
11908         (text-decoration:overline; text-decoration-skip: auto)%
11909         {overline}{#1}%
11910     }}
```

\LWR@currenttextcolor The color to use for text and \rule, defaulting to black:

```
11911 \newcommand*{\LWR@currenttextcolor}{black}
```

\LWR@tempcolor The color converted to HTML colorspace.
\LWR@tempcolortwo

```
11912 \newcommand*{\LWR@tempcolor}{}%
11913 \newcommand*{\LWR@tempcolortwo}{}%
```

\LWR@findcurrenttextcolor Sets \LWR@tempcolor to the current color.

```
11914 \newcommand*{\LWR@findcurrenttextcolor}{%
11915 \renewcommand{\LWR@tempcolor}{000000}%
11916 }
```

\LWR@textcurrentcolor {\langle text\rangle} Like \textcolor but uses the current \color instead.

```
11917 \NewDocumentCommand{\LWR@textcurrentcolor}{m}{%
11918     \renewcommand*{\LWR@currenttextcolor}{black}%
11919     #1%
11920 }
```



```
11921 \end{warpHTML}
```

for PRINT output: 11922 \begin{warpprint}

\LWR@textcurrentfont {\langle text\rangle}

Prints the text with the current font choices.

```
11923 \newcommand*{\LWR@textcurrentfont}[1]{#1}
```

Env LWR@blocktextcurrentfont Prints the contents with the current font choices.

```
11924 \newenvironment*{LWR@blocktextcurrentfont}{}{  

  \FilenameNullify {\langle macros to nullify\rangle}  

  11925 \newcommand*{\FilenameNullify}[1]{  

    11926 \end{warpprint}}
```

91 Skips, spaces, font sizes

for HTML output: 11927 \begin{warpHTML}

\, and \thinspace may be redefined by other packages, so are redefined \AtBeginDocument here.

Direct-formatting space commands become HTML entities:

```
11928 \AtBeginDocument{  

  11929 \renewrobustcmd*{\,}{\HTMLunicode{202f}} % HTML thin non-breakable space  

  11930 \renewrobustcmd*{\thinspace}{\HTMLunicode{202f}} % HTML thin non-breakable space  

  11931 \renewrobustcmd*{\negthinspace}{\HTMLunicode{202f}} % HTML thin non-breakable space  

  11932 \renewrobustcmd*{\~}{\HTMLentity{nbsp}}  

  11933 \renewrobustcmd*{\textellipsis}{\HTMLunicode{2026}}  

  11934 }
```

Direct-formatting font sizes are remembered for future use:

```
11935 \newcommand*{\LWR@font@size}{normalsize}  

  11936  

  11937 \newrobustcmd*{\LWR@HTML@normalsize}{\renewcommand*{\LWR@font@size}{normalsize}}  

  11938 \LWR@formatted{normalsize}  

  11939  

  11940 \newrobustcmd*{\LWR@HTML@small}{\renewcommand*{\LWR@font@size}{small}}  

  11941 \LWR@formatted{small}  

  11942  

  11943 \newrobustcmd*{\LWR@HTML@footnotesize}{\renewcommand*{\LWR@font@size}{footnotesize}}  

  11944 \LWR@formatted{footnotesize}  

  11945  

  11946 \newrobustcmd*{\LWR@HTML@scriptsize}{\renewcommand*{\LWR@font@size}{scriptsize}}  

  11947 \LWR@formatted{scriptsize}  

  11948  

  11949 \newrobustcmd*{\LWR@HTML@tiny}{\renewcommand*{\LWR@font@size}{tiny}}  

  11950 \LWR@formatted{tiny}  

  11951  

  11952 \newrobustcmd*{\LWR@HTML@large}{\renewcommand*{\LWR@font@size}{large}}  

  11953 \LWR@formatted{large}  

  11954  

  11955 \newrobustcmd*{\LWR@HTML@Large}{\renewcommand*{\LWR@font@size}{Large}}  

  11956 \LWR@formatted{Large}
```

```
11957
11958 \newrobustcmd*{\LWR@HTML@LARGE}{\renewcommand*{\LWR@font@size}{LARGE}}
11959 \LWR@formatted{LARGE}
11960
11961 \newrobustcmd*{\LWR@HTML@huge}{\renewcommand*{\LWR@font@size}{huge}}
11962 \LWR@formatted{huge}
11963
11964 \newrobustcmd*{\LWR@HTML@Huge}{\renewcommand*{\LWR@font@size}{Huge}}
11965 \LWR@formatted{Huge}

11966 \DeclareDocumentCommand{\onecolumn}{}{{
11967
11968 \DeclareDocumentCommand{\twocolumn}{O{}}{{
11969
11970 #1
11971
11972 }

\hfill

11973 \newcommand*{\LWR@HTML@hfill}{\qquad}
11974 \LWR@formatted{hfill}

\hrulefill

11975 \newcommand*{\LWR@HTML@hrulefill}{\rule{1in}{1pt}}
11976 \LWR@formatted{hrulefill}

\dotfill

11977 \newcommand*{\LWR@HTML@dotfill}{\dots}
11978 \LWR@formatted{dotfill}

\newpage

11979 \renewcommand*{\newpage}{
11980
11981 }

\newline Uses the HTML <br /> element.

11982 \newrobustcmd*{\LWR@newlinebr}{\unskip\LWR@htmltag{br /}\LWR@orignewline}%
11983 \LetLtxMacro{\newline}{\LWR@newlinebr

\\ Redefined to \LWR@endofline or \LWR@tabularendofline.

\LWR@endofline * [<len>]

\\ is assigned to \LWR@endofline at \LWR@LwarpStart.
```

Inside tabular, \\ is temporarily changed to \LWR@tabularendofline.

```

11984 \LetLtxMacro{\LWR@origendofline} \\
11985 \NewDocumentCommand{\LWR@endofline}{s O{0pt}}{%
11986 {%
11987 \newline%}

11988 \setlength{\LWR@templengthone}{#2}%
11989 \ifdimgreater{\LWR@templengthone}{0pt}{\newline}{()}%
11990 }

```

\LWR@minipagestartpars Minipages are often placed side-by-side inside figures, with a bit of horizontal space to separate them. Since HTML does not allow a <div> to be inside a p, paragraphs must be turned off during the generation of the minipage, then turned on after the minipage is complete. When this occurs between side-by-side minipages, l warp correctly suppresses the paragraph tags between the minipages, unless some other text is between the minipages. Such text forms its own paragraph, resulting in text after a minipage to be on its own line. Since people often place small horizontal space between minipages, it is desirable to maintain this space if possible. l warp tries to do this by remembering that a minipage has been seen, in which case paragraph tags are suppressed around \hspace, \enskip, \quad, and \qquad until the end of the paragraph, when the closing p tag is created.

When a minipage is seen, the boolean LWR@minipagethispar is set, telling the following horizontal whitespace commands to try to suppress their surrounding paragraph tags. LWR@minipagethispar is cleared at the next end of paragraph, when the HTML paragraph closing tag is generated.

Placed just before \hspace, \quad, or \qquad's HTML output.

```

11991 \newcommand*{\LWR@minipagestartpars}{%
11992 \ifbool{\LWR@minipagethispar}{\LWR@startpars}{()}%
11993 }

```

\LWR@minipagestoppars Placed just after \hspace, \quad, or \qquad's HTML output.

```

11994 \newcommand*{\LWR@minipagestoppars}{%
11995 \ifbool{\LWR@minipagethispar}{\LWR@stoppars}{()}%
11996 }

```

\quad Handles special minipage & horizontal space interactions. Uses 2003 EM SPACE to pass validation.

```

11997 \renewrobustcmd*{\quad}{%
11998 \LWR@minipagestoppars%
11999 \HTMLunicode{2003}%
12000 \LWR@minipagestartpars%
12001 }

```

\qquad Handles special minipage & horizontal space interactions.

```

12002 \renewrobustcmd*{\qquad}{\quad\quad}

```

\enskip Handles special minipage & horizontal space interactions.

```
12003 \renewrobustcmd{\enskip}{%
12004 \LWR@minipagestoppars%
12005 \HTMLunicode{2002}%
12006 \LWR@minipagestartpars%
12007 }
```

\Len \LWR@tempwidth Used to compute span width, height, raise for \hspace and \rule:

```
Len \LWR@tempheight 12008 \newlength{\LWR@tempwidth}
Len \LWR@tempraise 12009 \newlength{\LWR@tempheight}
1210 \newlength{\LWR@tempraise}
```

\LWR@select@html@hspace * {\langle length\rangle} * {\langle length\rangle}
\hspace Handles special minipage & horizontal space interactions.
Prints a span of a given width. Ignores the optional star.
\hspace{\fill} is converted to \hspace{2em}, equal to \qquad.

```
12011 \newcommand{\LWR@select@html@hspace}{%
12012 \RenewDocumentCommand{\hspace}{s m}{%
12013 \setlength{\LWR@tempwidth}{##2}}
```

If \fill, change to \qquad:

```
12014 \ifnum\gluestretchorder\LWR@tempwidth>0%
12015 \setlength{\LWR@tempwidth}{2em}%
12016 \fi%
```

Only if the width is greater than zero:

```
12017 \ifdimcomp{\LWR@tempwidth}{>}{0pt}{%
```

If had a minipage this paragraph, try to inline the white space without generating paragraph tags:

```
12018 \LWR@minipagestoppars%
```

Support the HTML thin wrappable space:

```
12019 \ifdimcomp{\LWR@tempwidth}{=}{.16667em}%
12020 {%
12021 \HTMLunicode{2009}%
12022 }%
```

Print the span with the converted width. Not rounded.

```
12023 {%
12024 \LWR@htmltagc{%
12025 span style="width:\LWR@printlength{\LWR@tempwidth}; % extra space
```

```
12026           display:inline-block"%  
12027 }%
```

If formatting for a word processor, approximate with a number of \quads, in case a span of a given width is not supported:

```
12028     \ifbool{FormatWP}{%  
12029         \setlength{\LWR@templengthone}{\LWR@tempwidth}%  
12030         \whiledo{\lengthtest{\LWR@templengthone>1em}}{  
12031             \quad%  
12032             \addtolength{\LWR@templengthone}{-1em}}%  
12033         }%  
12034     }%
```

If NOT formatting for a word processor, include an empty comment to avoid an empty span:

```
12035     {\LWR@htmlcomment{} }%
```

Close the span:

```
12036     \LWR@htmlltagc{/span} %  
12037 }
```

If had a minipage this paragraph, try to inline the white space without generating paragraph tags:

```
12038     \LWR@minipagestartpars%  
12039 }{ }% width greater than 0  
12040 }%  
12041 }
```

```
\LWR@select@html@nohspase * {<length>}  
\hspase  
Used to disable \hspase while creating description \items.
```

```
12042 \newcommand{\LWR@select@html@nohspase}{%  
12043     \RenewDocumentCommand{\hspase}{s m}{ }%  
12044 }
```

```
\LWR@select@print@hspase
```

```
12045 \newcommand*{\LWR@select@print@hspase}{%  
12046     \renewrobustcmd\hspase{@ifstar@hspacer@hspase}{ }%  
12047 }
```

```
\hspase * {<length>}
```

Handles special minipage & horizontal space interactions.

```
12048 \LWR@select@html@hspase
```

\LWR@vspace * {*length*} Nullified vspace.

```
12049 \NewDocumentCommand{\LWR@HTML@vspace}{s m}{}  
12050  
12051 \LWR@formatted{vspace}
```

\linebreak [*num*] Inserts an HTML br tag.

```
12052 \renewcommand*\linebreak[1][]{\newline}
```

\nolinebreak [*num*]

```
12053 \renewcommand*\nolinebreak[1][]{}
```

\pagebreak [*num*] Starts a new paragraph.

```
12054 \renewcommand*\pagebreak[1][]{  
12055  
12056 }
```

\nopagebreak [*num*]

```
12057 \renewcommand*\nopagebreak[1][]{}
```

\enlarge thispage * {*len*}

```
12058 \RenewDocumentCommand{\enlarge thispage}{s m}{}  
  
\clearpage  
\cleardoublepage
```

```
12059 \renewcommand*\clearpage{}  
12060 \renewcommand*\cleardoublepage{}
```

\rule [*raise*] {*width*} {*height*}

Handles special minipage & horizontal space interactions.

Creates a span of a given width and height. Ignores the optional star.

\fill is zero-width, so \hspace{\fill} is ignored.

```
12061 \newcommand*\LWR@HTML@rule[3][]{%
```

The width is copied into a temporary L^AT_EX length, from which comparisons and conversions may be made:

```
12062 \setlength{\LWR@tempwidth}{#2}%
```

If it's zero-width then skip the entire rule:

```
12063 \ifthenelse{\lengthtest{\LWR@tempwidth=0pt}}%
12064 {}% zero- width
12065 {% non-zero width
```

If it's non-zero width, set a minimal thickness so that it more reliably shows in the browser:

```
12066 \ifthenelse{%
12067   \lengthtest{\LWR@tempwidth>0pt}\AND%
12068   \lengthtest{\LWR@tempwidth<1pt}%
12069 }%
12070   {\setlength{\LWR@tempwidth}{1pt}}%
12071 }%
```

Likewise with height:

```
12072 \setlength{\LWR@tempheight}{#3}%
12073 \ifthenelse{%
12074   \lengthtest{\LWR@tempheight>0pt}\AND%
12075   \lengthtest{\LWR@tempheight<1pt}%
12076 }%
12077   {\setlength{\LWR@tempheight}{1pt}}%
12078 }%
```

If had a minipage this paragraph, try to inline the rule without generating paragraph tags:

```
12079 \LWR@minipagestopars%
```

Print the span with the converted width and height. The width and height are NOT rounded, since a height of less than 1pt is quite common in L^AT_EX code.

```
12080 \LWR@findcurrenttextcolor%
12081 \LWR@htmntagc{%
12082 span\LWR@indentHTML%
12083 style="%"
```

The HTML background color is used to draw the filled rule according to the L^AT_EX foreground color set by \textcolor.

```
12084 \ifbool{FormatWP}{}{background:\LWR@currenttextcolor ; }%
```

The width and height are printed, converted to PT:

```
12085 width:\LWR@printlength{\LWR@tempwidth} ; %
12086 height:\LWR@printlength{\LWR@tempheight} ; %
```

The raise height is converted to a css transform. The *2 raise multiplier is to approximately match HTML output's X height. Conversion to a L^AT_EX length allows a typical L^AT_EX expression to be used as an argument for the raise, whereas printing the raise argument directly to HTML output without conversion to a L^AT_EX length limits the

allowable syntax. To do: A superior method would compute a ratio of LATEX ex height, then print that to HTML with an ex unit.

```

12087      \ifblank{#1}%
12088      {}%
12089      {%
12090          \setlength{\LWR@tempraise}{0pt-#1}%
12091          \setlength{\LWR@tempraise}{\LWR@tempraise*2}%
12092          \LWR@indentHTML%
12093          -ms-transform: translate(0pt,\LWR@printlength{\LWR@tempraise}); %
12094          \LWR@indentHTML%
12095          -webkit-transform: translate(0pt,\LWR@printlength{\LWR@tempraise}); %
12096          \LWR@indentHTML%
12097          transform: translate(0pt,\LWR@printlength{\LWR@tempraise}); %
12098          \LWR@indentHTML%
12099      }%

```

Display inline-block to place the span inline with the text:

```

12100      display:inline-block;"\LWR@orignewline%
12101      }%

```

If formatting for a word processor, approximate with a number of underscores, in case a span of a given width is not supported:

```

12102      \ifbool{FormatWP}{%
12103          \setlength{\LWR@templengthone}{\LWR@tempwidth}%
12104          \whiledo{\lengthtest{\LWR@templengthone>1em}}{%
12105              \_{}%
12106              \addtolength{\LWR@templengthone}{-1em}%
12107          }%
12108      }%

```

If NOT formatting for a word processor, add a comment to avoid an empty :

```

12109      {\LWR@htmlcomment{}}

```

Close the span:

```

12110      \LWR@htmlltagc{/span}%

```

If had a minipage this paragraph, try to inline the white space without generating paragraph tags:

```

12111      \LWR@minipagestartpars%
12112  }% non-zero width
12113 }
12114
12115 \LWR@formatted{rule}

12116 \end{warpHTML}

```

92 \phantomsection

for HTML output: 12117 \begin{warpHTML}

\phantomsection Emulate the hyperref \phantomsection command, often used to insert the bibliography into the table of contents. Ignores \ForceHTMLTOC.

```
12118 \DeclareDocumentCommand{\phantomsection}{}{%
12119 \begingroup%
12120 \boolfalse{LWR@forcinghtmltoc}%
12121 \section*{}%
12122 \endgroup%
12123 }%
12124 \end{warpHTML}
```

93 \LaTeX and other logos

Logos for HTML and print modes:

Some of these logos may be redefined in a later package, so after loading other packages, and at the beginning of the document, their definitions are finally set by \LWR@formatted.

For css conversions, see:

<http://edward.oconnor.cx/2007/08/tex-poshlet>

<http://nitens.org/taraborelli/texlogo>

and the spacing described in the metafont package documentation.

for HTML & PRINT: 12125 \begin{warpall}
12126 \newrobustcmd*\{Xe\}
12127 {X\hspace{-.1667em}\raisebox{-.5ex}{E}}
12128
12129 \AtBeginDocument{
12130 \@ifpackageloaded{graphics}{
12131 \@ifpackageloaded{metalogo}{}{%
12132 \renewrobustcmd*\{Xe\}
12133 {X\hspace{-.1667em}\raisebox{-.5ex}{\reflectbox{E}}}}
12134 }
12135 }{%
12136 \PackageWarningNoLine{l warp}{Load graphicx or graphics
12137 for improved XeTeX logo}
12138 }
12139 }
12140
12141 \providerobustcmd*\{XeTeX\}{\mbox{\Xe\hspace{-.125em}\TeX}}
12142 \providerobustcmd*\{XeLaTeX\}{\mbox{\Xe\hspace{-.125em}\LaTeX}}
12143 \providerobustcmd*\{AMS\}{%
12144 \leavevmode\hbox{\$\mathcal A\kern-.2em\lower.376ex\hbox{\$\mathcal\$} M\$\kern-.2em\mathcal S\$}%
12145 }

```

12146 }
12147 \newrobustcmd*\{LyX\}{\textsf{LyX}}
12148 \providerobustcmd*\{LuaTeX\}{\mbox{LuaTeX}}
12149 \providerobustcmd*\{LuaLaTeX\}{\mbox{LuaLaTeX}}
12150 \providerobustcmd*\{BibTeX\}{\mbox{B\textrm{ib}}TeX}
12151 \providerobustcmd*\{MakeIndex\}{\mbox{\textit{MakeIndex}}}
12152 \providerobustcmd*\{ConTeXt\}{\mbox{ConTeXt}}
12153 \providerobustcmd*\{MiKTeX\}{\mbox{MiKTeX}}
12154 \end{warpall}

```

for HTML output: 12155 \begin{warpHTML}

The print-mode versions of the following may be changed by `metalog`, so their print formatting is recorded `\AtBeginDocument`.

\TeX \TeX

`latexlogo` is a css class used to properly typeset the E and A in L^AT_EX and friends.

`latexlogofont` is a css class used to select the font for the rest of the logo in L^AT_EX, LuaTeX, ConTeXt, etc.

```

12156 \newrobustcmd*\{LWR@HTML@TeX\}
12157 {%
12158     \InlineClass{latexlogofont}%
12159     {%
12160         \InlineClass{latexlogo}%
12161         {%
12162             T%
12163             \InlineClass{latexlogosub}{e}%
12164             X%
12165         }%
12166     }%
12167 }%
12168 \AtBeginDocument{\LWR@formatted{TeX}}% may have been patched by metalog

```

\LaTeX \LATEX, \LATEX2_E

\LaTeXe

```

12169 \newrobustcmd*\{LWR@HTML@LaTeX\}
12170 {%
12171     \InlineClass{latexlogofont}%
12172     {%
12173         \InlineClass{latexlogo}%
12174         {%
12175             L%
12176             \InlineClass{latexlogosup}{a}%
12177             T%
12178             \InlineClass{latexlogosub}{e}%
12179             X%
12180         }%
12181     }%
12182 }%
12183 \AtBeginDocument{\LWR@formatted{LaTeX}}% may have been patched by metalog

```

```

12185
12186
12187 \newrobustcmd*\{ \LWR@HTML@LaTeXe\}
12188 {%
12189     \LaTeX%
12190     \InlineClass{latexlogofont}{%
12191         \InlineClass{latexlogotwoe}{%
12192             2%
12193             \InlineClass{latexlogotwoesub}{\HTMLUnicode{03B5}}%
12194         }%
12195     }%
12196 }
12197 \AtBeginDocument{\LWR@formatted{LaTeXe}}% may have been patched by metalogo

\LuaTeX \LuaTeX, \LuaLATEX
\LuaLaTeX
12198 \newrobustcmd*\{ \LWR@HTML@LuaTeX\}{\InlineClass{latexlogofont}{Lua}\TeX}
12199 \AtBeginDocument{\LWR@formatted{LuaTeX}}% may have been patched by metalogo
12200
12201 \newrobustcmd*\{ \LWR@HTML@LuaLaTeX\}{\InlineClass{latexlogofont}{Lua}\LaTeX}
12202 \AtBeginDocument{\LWR@formatted{LuaLaTeX}}% may have been patched by metalogo

```

\XeTeX \XeTeX, \XeLATEX

\XeLaTeX
 xetexlogo is a css class which aligns the backwards E in \XeTeX and spaces \TeX appropriately.

xelatexlogo is a css class which aligns the backwards E in \XeLATEX and spaces \TeX appropriately.

```

12203 \newrobustcmd*\{ \LWR@HTML@Xe\}
12204     {%
12205         X%
12206         \InlineClass{xelatexlogosub}{\HTMLUnicode{18e}}%
12207     }
12208 \AtBeginDocument{\LWR@formatted{Xe}}% may have been patched by metalogo
12209
12210 \newrobustcmd*\{ \LWR@HTML@XeTeX\}{\InlineClass{xelatexlogo}{\Xe}\TeX}
12211 \AtBeginDocument{\LWR@formatted{XeTeX}}% may have been patched by metalogo
12212
12213 \newrobustcmd*\{ \LWR@HTML@XeLaTeX\}{\InlineClass{xelatexlogo}{\Xe}\LaTeX}
12214 \AtBeginDocument{\LWR@formatted{XeLaTeX}}% may have been patched by metalogo

```

\ConTeXt \ConTeXt

```

12215 \newrobustcmd*\{ \LWR@HTML@ConTeXt\}%
12216     \InlineClass{latexlogofont}{Con}\TeX{ }%
12217     \InlineClass{latexlogofont}{t}%
12218 }
12219 \LWR@formatted{ConTeXt}

```

\BibTeX \BIBTeX, *MakeIndex*
\MakeIndex

```

12220 \newrobustcmd*\{\LWR@HTML@BibTeX\}
12221     {\InlineClass{latexlogofont}{B\textsc{ib}}}\TeX\}
12222 \LWR@formatted{BibTeX}
12223
12224 \newrobustcmd*\{\LWR@HTML@MakeIndex\}
12225     {\InlineClass{latexlogofont}{\textit{MakeIndex}}}}
12226 \LWR@formatted{MakeIndex}
```

\AmS $\mathcal{A}\mathcal{M}\mathcal{S}$

`amslogo` is a css class used for the $\mathcal{A}\mathcal{M}\mathcal{S}$ logo.

```

12227 \AtBeginDocument{%
12228 \newrobustcmd*\{\LWR@HTML@AmS\}
12229 {%
1230     \InlineClass{amslogo}{%
1231         \textit{%
1232             A%
1233             \InlineClass{latexlogosub}{M}%
1234             S%
1235         }%
1236     }%
1237 }%
1238 \LWR@formatted{AmS}
1239 }
```

\MiKTeX MiKTeX

```

12240 \newrobustcmd*\{\LWR@HTML@MiKTeX\}{\InlineClass{latexlogofont}{MiK}\TeX\}
12241 \LWR@formatted{MiKTeX}
```

\LyX LyX

`lyxlogo` is a css class used for the LyX logo.

```

12242 \newrobustcmd*\{\LWR@HTML@LyX\}{\InlineClass{lyxlogo}{LyX}}
12243 \LWR@formatted{LyX}

12244 \end{warpHTML}
```

94 \AtBeginDocument, \AtEndDocument

for HTML output: 12245 `\begin{warpHTML}`

\LWR@LwarpStart Automatically sets up the HTML-related actions for the start and end of the document.
 \LWR@LwarpEnd
 12246 `\AfterEndPreamble{\LWR@LwarpStart}`
 12247 `\AtEndDocument{\LWR@LwarpEnd}`
 12248 `\end{warpHTML}`

95 Loading KOMA-SCRIPT class patches

Load patches to koma-script.

```
for HTML output: 12249 \begin{warpHTML}

12250 \@ifclassloaded{scrbook}{\RequirePackage{l warp-patch-komascript}}{}
12251 \@ifclassloaded{scratcl}{\RequirePackage{l warp-patch-komascript}}{}
12252 \@ifclassloaded{scrreprt}{\RequirePackage{l warp-patch-komascript}}{}

12253 \end{warpHTML}
```

96 Loading MEMOIR class patches

Load patches to memoir.

```
for HTML output: 12254 \begin{warpHTML}

12255 \@ifclassloaded{memoir}{\RequirePackage{l warp-patch-memoir}}{}

12256 \end{warpHTML}
```

97 ut* class patches

Load patches to uj* and ut* classes, as well as ltj* classes.

```
for HTML output: 12257 \begin{warpHTML}

12258 \newcommand*{\LWR@patchujtclasses}{

    uj/t does not use \partname

    12259     \def\@partnameformat{}

    12260     \def\@partcntformat##1{%
        12261         \prepartname%
        12262         \csname the##1\endcsname%
        12263         \postpartname%
        12264         \quad%
        12265     }
    12266     \@ifundefined{chapter}{}{
        12267         \def\@chapcntformat##1{%
            12268             \prechaptername%
            12269             \csname the##1\endcsname%
            12270             \postchaptername%
            12271             \quad%
        12272     }
    12273 }
```

Use decimal points instead of centered dots:

```

12274     \renewcommand{\thepart}{\@Roman\c@part}
12275     \@ifundefined{chapter}{
12276         \renewcommand{\thesection}{\@arabic\c@section}
12277     }{
12278         \renewcommand{\thechapter}{\@arabic\c@chapter}
12279         \renewcommand{\thesection}{\thechapter.\@arabic\c@section}
12280     }
12281     \renewcommand{\thesubsection}{\thesection.\@arabic\c@subsection}
12282     \renewcommand{\thesubsubsection}{%
12283     \thesubsection.\@arabic\c@subsubsection}
12284     \renewcommand{\theparagraph}{%
12285     \thesubsubsection.\@arabic\c@paragraph}
12286     \renewcommand{\thesubparagraph}{%
12287     \theparagraph.\@arabic\c@subparagraph}
12288     \@ifundefined{chapter}{

12289         \renewcommand{\thefigure}{\@arabic\c@figure}
12290         \renewcommand{\thetable}{\@arabic\c@table}
12291     }{
12292         \renewcommand{\thefigure}{%
12293         \ifnum\c@chapter>\z@\thechapter.\fi\@arabic\c@figure}
12294         \renewcommand{\thetable}{%
12295         \ifnum\c@chapter>\z@\thechapter.\fi\@arabic\c@table}
12296     }
12297 }
12298
12299 \@ifclassloaded{ujarticle}{\LWR@patchujtclasses}{}
12300 \@ifclassloaded{ujbook}{\LWR@patchujtclasses}{}
12301 \@ifclassloaded{ujreport}{\LWR@patchujtclasses}{}
12302 \@ifclassloaded{utarticle}{\LWR@patchujtclasses}{}
12303 \@ifclassloaded{utbook}{\LWR@patchujtclasses}{}
12304 \@ifclassloaded{utreport}{\LWR@patchujtclasses}{}
12305 \@ifclassloaded{ltjarticle}{\LWR@patchujtclasses}{}
12306 \@ifclassloaded{ltjbook}{\LWR@patchujtclasses}{}
12307 \@ifclassloaded{ltjreport}{\LWR@patchujtclasses}{}
12308 \@ifclassloaded{ltjsarticle}{\LWR@patchujtclasses}{}
12309 \@ifclassloaded{ltjsbook}{\LWR@patchujtclasses}{}
12310 \@ifclassloaded{ltjsreport}{\LWR@patchujtclasses}{}
12311 \@ifclassloaded{ltjskiyou}{\LWR@patchujtclasses}{}
12312 \@ifclassloaded{ltjspf}{\LWR@patchujtclasses}{}
12313 \@ifclassloaded{ltjtarticle}{\LWR@patchujtclasses}{}
12314 \@ifclassloaded{ltjtbook}{\LWR@patchujtclasses}{}
12315 \@ifclassloaded{ltjtreport}{\LWR@patchujtclasses}{}

12316 \end{warpHTML}
```

98 CTeX patches

Patches for `ctex` and related classes, which are loaded before `lwarp`.

All CTeX classes and the `ctex` package seem to load `ctexpatch`, so its presence is used to decide whether to have `lwarp` patch CTeX.

for HTML output: 12317 \begin{warpHTML}

\AtBeginDocument in case the user set FileSectionNames in the preamble.

```

12318 \AtBeginDocument{
12319     \@ifpackageloaded{ctexpatch}{%
12320         \def\@partcntformat#1{%
12321             \LWR@isolate{\CTEX@partname}~%
12322             \CTEX@part@aftername%
12323         }%
12324     \def\@partnameformat{}%
12325     \def\@chapcntformat#1{%
12326         \LWR@isolate{\CTEX@chaptername}~%
12327         \CTEX@chapter@aftername%
12328     }%
12329     }{}%
12330 }%
12331 }{%
12332 }%
12333 \end{warpHTML}

```

99 kotexutf patches

Patch for kotexutf, which is loaded before lwarp.

kotexutf's \@setref was conflicting with lwarp's cross references.

for HTML output: 12334 \begin{warpHTML}

If kotexutf's version of \@setref is detected, it is reverted to the original.

```

12335 \AtBeginDocument{
12336 \@ifpackageloaded{kotexutf}{%
12337     \def\LWR@kotexutf@setref#1#2#3{%
12338         \@setref@dhucs@orig{#1}{#2}{#3}%
12339         \ifx#1\relax\else
12340             \bgroup
12341                 \dhucs@make@cjkchar@null
12342                 \edef@\temp{\expandafter#2#1}\global\josatoks\expandafter{\@temp}%
12343             \egroup
12344         \fi%
12345     }%
12346     \ifdefequal{\@setref}{\LWR@kotexutf@setref}{%
12347         \let\@setref\@setref@dhucs@orig
12348     }{}%
12349 }{}%
12350 }{%
12351 }%
12352 \end{warpHTML}

```

100 babel and polyglossia warnings

lwarp prints a message instructing the user how to avoid the following error.

(These are not \PackageWarnings because there may not be a problem.)

lwarp uses cleveref, which has some limitations when using polyglossia, possibly resulting in the error

```
! Undefined control sequence. . . . \begindocumenthook
```

To test compatibility, add

```
\usepackage{cleveref}
```

near the end of the preamble (as the last package to be loaded), and try to compile the print version. It may be necessary to set

```
\setdefaultlanguage{english}
```

or some other language supported by cleveref, then select other languages using \setotherlanguages.

Once the print version works with cleveref and polyglossia, the HTML version should work as well using lwarp.

```
for HTML output: 12353 \begin{warpHTML}
12354 \AtBeginDocument{
12355
12356 \@ifpackageloaded{polyglossia}{
12357     \PackageWarningNoLine{lwarp}
12358     {%
12359         Polyglossia has been loaded. Lwarp also uses cleveref.\MessageBreak
12360         See the cleveref documentation regarding\MessageBreak
12361         polyglossia support. Some languages are not supported%
12362     }
12363     \typeout{---}
12364     \typeout{Package lwarp:}
12365     \typeout{If the error}
12366     \typeout{\space\space‘‘! Undefined control sequence.
12367             \space ... \space \protect\@begindocumenthook’’}
12368     \typeout{occurs here, use the polyglossia macro:}
12369     \typeout{\space\space\protect\setmainlanguage\protect{...}\protect{}}
12370     \typeout{---}
12371 }%
12372 \@ifpackageloaded{babel}{
12373     \PackageWarningNoLine{lwarp}
12374     {%
12375         Babel has been loaded. Lwarp also uses cleveref.\MessageBreak
12376         See the cleveref documentation regarding\MessageBreak
12377         babel support. Some languages are not supported%
12378     }
12379 }%
12380 }%
12381
```

```

12382 }
12383 \end{warpHTML}
```

101 MATHJAX warnings

\LWR@mathjaxwarn {⟨packagename⟩} {⟨More text.⟩}

To be done \AtBeginDocument.

```

12384 \newcommand*{\LWR@mathjaxwarn}[2]{%
12385     \@ifpackageloaded{lwarf-#1}{%
12386         \ifblank{#2}{%
12387             \PackageWarningNoLine{lwarf}%
12388             {%
12389                 Lwarf provides emulation for MathJax when used\MessageBreak
12390                 with the #1 package%}
12391             }%
12392         }{%
12393             \PackageWarningNoLine{lwarf}%
12394             {%
12395                 Lwarf provides emulation for MathJax when used\MessageBreak
12396                 with the #1 package.\MessageBreak
12397                 #2%
12398             }%
12399         }%
12400     }{}%
12401 }
12402
12403 \AtBeginDocument{%
12404     \ifbool{mathjax}{%
12405         \LWR@mathjaxwarn{arydshln}%
12406         {In a math array, do not use the optional argument\MessageBreak
12407          for \protect\cdashline.\space\space
12408          Furthermore, \protect\cline\space is not\MessageBreak
12409          supported by MathJax}%
12410         \LWR@mathjaxwarn{autonum}%
12411         {MathJax does not support equation+.\MessageBreak
12412          You may use the warpprint and warpHTML\MessageBreak
12413          environments to isolate the package load\MessageBreak
12414          and the equation+ environments}%
12415         \LWR@mathjaxwarn{backnaur}%
12416         {You may enclose its uses inside\MessageBreak
12417          lateximage environments to force SVG output,\MessageBreak
12418          but this also changes the print output}%
12419         \LWR@mathjaxwarn{bigdelim}%
12420         {Delimiters appear only of the first line}%
12421         \LWR@mathjaxwarn{booktabs}%
12422         {In a math array, do not use (trim) for \protect\cmidrule}%
12423         \LWR@mathjaxwarn{breqn}%
12424         {Each environment becomes an SVG image}%
12425         \LWR@mathjaxwarn{delarray}%
12426         {Enclose its uses inside lateximage\MessageBreak}}
```

```
12427      environments to force SVG output}
12428      \LWR@mathjaxwarn{jkmath}{}
12429      \LWR@mathjaxwarn{mathspec}{}
12430      \LWR@mathjaxwarn{mathtools}
12431          {Avoid starred macros.\MessageBreak
12432              See the Lwarf manual for other limitations}
12433      \LWR@mathjaxwarn{multirow}
12434          {Multirow works as expected in text mode, but\MessageBreak
12435              limited emulation is provided for MathJax math.\MessageBreak
12436              \protect\multirow\space ignores all arguments except\MessageBreak
12437                  the text}
12438      \LWR@mathjaxwarn{pb-diagram}
12439          {Enclose its uses inside \teximage environments\MessageBreak
12440              to force SVG output}
12441      \LWR@mathjaxwarn{physics}
12442          {The third-party extension is not yet used.\MessageBreak
12443              Avoid starred macros and automatic delimiters.\MessageBreak
12444              Use all mandatory arguments, adding empty as needed.\MessageBreak
12445              See the Lwarf manual for details}
12446      \LWR@mathjaxwarn{unicode-math}
12447          {Not all characters are encoded correctly.\MessageBreak
12448              Some symbol fonts are not supported by MathJax,\MessageBreak
12449              and are only approximated}
12450      \LWR@mathjaxwarn{witharrows}
12451          {Arrows can only point to the next line.\MessageBreak
12452              Text is only placed on a single line}
12453      \LWR@mathjaxwarn{xy}
12454          {xy works in text, but in math you must\MessageBreak
12455              enclose its uses inside \teximage\MessageBreak
12456                  environments to force SVG output}
12457  }{}
12458 }
```

File 2 l warp-2in1.sty**§ 102 Package 2in1**

Pkg 2in1 2in1 is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{2in1}

File 3 l warp-2up.sty**§ 103 Package 2up**

Pkg 2up 2up is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{2up}[2010/05/15]

```
2 \def\source#1#2#3{}  
3 \def\target#1#2#3{}  
4 \def\targetlayout#1{}  
5 \newdimen\pageseplength  
6 \newdimen\pagesepwidth  
7 \newdimen\pagesepoffset  
8 \def\twoupemptypage{}  
9 \def\twoupclearpage{}  
10 \def\twoupeject{}  
11 \def\twouparticle{}  
12 \def\twoupplain{}  
13 \def\twouplegaltarget{}  
14 \def\twouplandscape{}  
15 \def\TwoupWrites{}
```

File 4 l warp-a4.sty**§ 104 Package a4**

Pkg a4 a4 is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{a4}[2004/04/15]

```
2 \newcommand*\WideMargins{}
```

File 5 l warp-a4wide.sty**§ 105 Package a4wide**

Pkg a4wide a4wide is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{a4wide}[1994/08/30]

File 6 l warp-a5comb.sty**§ 106 Package a5comb**

Pkg a5comb a5comb is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{a5comb}

File 7 l warp-abstract.sty**§ 107 Package abstract**

(Emulates or patches code by PETER WILSON.)

Pkg abstract abstract is supported and patched by l warp.

⚠ **missing TOC** If using the number option with file splits, be sure to place the table of contents before the abstract. The number option causes a section break which may cause a file split, which would put a table of contents out of the home page if it is after the abstract.

for HTML output: memoir provides an abstract environment even though it is not an article or report class. Meanwhile, l warp loads book to emulate memoir, but book does not have an abstract environment, so when the abstract package is loaded for emulation there is no pre-existing abstract to redefine, which would cause an error. Thus, a null abstract is provide here:

1 \ProvideDocumentEnvironment{abstract}{}{}

Accept all options for l warp-abstract:

2 \LWR@ProvidesPackagePass{abstract}[2009/06/08]

3 \AtBeginDocument{
4 \BeforeBeginEnvironment{abstract}{
5 \LWR@forcenewpage
6 \BlockClass{abstract}
7 }

```
8 \AfterEndEnvironment{abstract}{\endBlockClass}
9 }
10
11 \renewcommand{\@bsruntitl}{%
12 \hspace*{\abstitleskip}%
13 {\abstractnamefont%
14 \InlineClass{abstractrunintitle}{\abstractname}%
15 \@bslabeldelim}%
16 }
17
18 \@ifclassloaded{memoir}
19 {
20   \renewenvironment{abstract}{%
21 %     \titlepage
22   \null\vfil
23   \begin{par} \lowpenalty
24   \if@bsrunin
25   \else
26     \if@bsstyle
27       \abstitlestyle{\BlockClassSingle{abstracttitle}{\abstractname}}%
28     \else
29       \ifnumber@bs
30         \num@bs
31       \else
32         \begin{\absnamepos}%
33         \abstractnamefont \BlockClassSingle{abstracttitle}{\abstractname}%
34         \end{par} \lowpenalty\@M
35         \end{\absnamepos}%
36 %       \vspace{\abstitleskip}%
37       \fi
38       \fi
39       \vspace{\abstitleskip}%
40     \fi
41   \put@bsintoc%
42   \begin{\bstr@ctlist}\if@bsrunin\@bsruntitl\fi\abstracttextfont}%
43   {\par\end{\bstr@ctlist}\vfil\null%\endtitlepage
44 }
45 }{%
46 \if@titlepage
47   \renewenvironment{abstract}{%
48 %     \titlepage
49   \null\vfil
50   \begin{par} \lowpenalty
51   \if@bsrunin
52   \else
53     \if@bsstyle
54       \abstitlestyle{\BlockClassSingle{abstracttitle}{\abstractname}}%
55     \else
56       \ifnumber@bs
57         \num@bs
58       \else
59         \begin{\absnamepos}%
60         \abstractnamefont \BlockClassSingle{abstracttitle}{\abstractname}%
61         \end{par} \lowpenalty\@M
62         \end{\absnamepos}%
63 }
```

```

63 %      \vspace{\abstitleskip}%
64      \fi
65      \fi
66      \vspace{\abstitleskip}%
67 \fi
68 \put@bsintoc%
69 \begin{@bstr@ctlist}\if@bsrunin\@bsrunintitle\fi\abstracttextfont}%
70 {\par\end{@bstr@ctlist}\vfil\null%\endtitlepage
71 }
72 \else
73 \renewenvironment{abstract}{%
74 \if@bsrunin
75 \else
76 \if@bststyle
77 \abstitlestyle{\BlockClassSingle{abstracttitle}{\abstractname}}%
78 \else
79 \ifnumber@bs
80 \num@bs
81 \else
82 \begin{\absnamepos}%
83 \abstractnamefont\BlockClassSingle{abstracttitle}{\abstractname}%
84 \end\absnamepos%
85 %      \vspace{\abstitleskip}%
86      \fi
87      \fi
88      \vspace{\abstitleskip}%
89 \fi
90 \put@bsintoc%
91 \begin{@bstr@ctlist}\if@bsrunin\@bsrunintitle\fi\abstracttextfont}%
92 {\par\end{@bstr@ctlist}}
93 \fi
94 }% not memoir

```

File 8 l warp-academicons.sty

§ 108 Package **academicons**

(Emulates or patches code by DIOGO A. B. FERNANDES.)

Pkg academicons academicons is patched for use by l warp.

If \aiicon is used, the name of the icon is used in the alt tag. Otherwise, for each of the individual icon macros, a generic alt tag is used.

for HTML output: 1 \LWR@ProvidesPackagePass{academicons}[2018/06/27]

```

2 \LetLtxMacro{\LWR@orig@symbol}{\symbol}
3
4 \let\LWR@academicons@orig@AI\AI
5
6 \newcommand*{\LWR@academicons@symbol}[1]{%
7   \begin{latentimage}*[academicon][academicons#1]%
8     \begingroup%

```

```

9      \LWR@academicons@orig@AI%
10     \LWR@orig@symbol{\#1}%
11     \endgroup%
12     \end{lateximage}%
13 }
14
15 \renewcommand*\{AI}{%
16     \LetLtxMacro\symbol\LWR@academicons@symbol%
17 }
18
19 \renewcommand*\{aiicon}[1]
20 {%
21     \begin{lateximage}*[#1 icon][academicons#1]%
22     \AI\csname aiicon@\#1\endcsname%
23     \end{lateximage}%
24 }
```

File 9 **l warp-afterpage.sty**

§ 109 Package **afterpage**

(Emulates or patches code by DAVID CARLISLE.)

Pkg **afterpage** **afterpage** is emulated.

for HTML output: Discard all options for **l warp-afterpage**:

```

1 \LWR@ProvidesPackageDrop{afterpage}[2014/10/28]

2 \newcommand{\afterpage}[1]{#1}
```

File 10 **l warp-accessibility.sty**

§ 110 Package **accessibility**

Pkg **accessibility** **accessibility** is emulated.

for HTML output: Discard all options for **l warp-accessibility**:

```

1 \LWR@ProvidesPackageDrop{accessibility}[2019/10/14]

2 \newcommand{\alt}[1]{\ThisAltText{\#1}}
3 \newcommand{\newhref}[3]{\ThisAltText{\#2}\href{\#1}{\#3}}%
4 \providecommand{\thead}[1]{\textbf{\#1}}
```

For MATHJAX:

```

5 \begin{warpMathJax}
6 \CustomizeMathJax{\newcommand{\alt}[1]{}}
```

```
7 \CustomizeMathJax{\newcommand{\thead}[1]{\text{\textbf{#1}}}}
8 \end{warpMathJax}
```

File 11 l warp-accsupp.sty**§ 111 Package accsupp**

Pkg accsupp accsupp is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{accsupp}[2018/03/28]

```
2 \newcommand*\{BeginAccSupp}[1]{}
3 \newcommand*\{EndAccSupp}[1]{}
```

For MATHJAX:

```
4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\BeginAccSupp}[1]{}}
6 \CustomizeMathJax{\newcommand{\EndAccSupp}[1]{}}
7 \end{warpMathJax}
```

File 12 l warp-acro.sty**§ 112 Package acro**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

Pkg acro acro is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{acro}[2019/10/12]

\DeclareAcronym is used in the preamble, where l warp has not yet made the dollar active, so temporarily enable l warp math catcode just for this definition:

```
2 \ExplSyntaxOn
3 \NewDocumentCommand \LWR@DeclareAcronym {mm}
4 {
5     \acro_declare_acronym:nn {#1} {#2}
6     \catcode`\$=3% l warp
7 }
8 \ExplSyntaxOff
9
10 \RenewDocumentCommand{\DeclareAcronym}{}{
11     \catcode`\$=\active% l warp
12     \LWR@DeclareAcronym
13 }
```

Modified to activate the current font:

```
14 \ExplSyntaxOn
15 \@ifpackagelater{acro}{2019/09/23}%
16 {%
17 \cs_gset_protected:Npn \__acro_typeset:nn #1#2
18 {
19     \mode_if_horizontal:F { \leavevmode }
20     \group_begin:
21         \use:x
22         {
23             \bool_if:cTF {\l__acro_custom_#1_format_bool}
24             { \exp_not:v {\l__acro_custom_#1_format_tl} }
25             { \exp_not:v {\l__acro_#1_format_tl} }
26             {\exp_not:N\lWR@textcurrentfont{#2}}% lwarp
27         }
28     \group_end:
29 }
30
31 \cs_gset_protected:Npn \__acro-ending_format:nn #1#2
32 {
33     \bool_if:NTF \l__acro_include_endings_format_bool
34     {
35         \str_case:nn {#1}
36         {
37             {long}
38             {
39                 \bool_if:NTF \l__acro_custom_long_format_bool
40                 { \l__acro_custom_long_format_tl }
41                 {
42                     \bool_if:NTF \l__acro_first_instance_bool
43                     { \l__acro_first_long_format_tl }
44                     { \l__acro_long_format_tl }
45                 }
46             }
47             {short}
48             {
49                 \bool_if:NTF \l__acro_custom_short_format_bool
50                 { \l__acro_custom_short_format_tl }
51                 { \l__acro_short_format_tl }
52             }
53             {alt}
54             {
55                 \bool_if:NTF \l__acro_custom_alt_format_bool
56                 { \l__acro_custom_alt_format_tl }
57                 { \l__acro_alt_format_tl }
58             }
59         }
60     }
61     { \use:n }
62     {\exp_not:N\lWR@textcurrentfont{#2}}% lwarp
63 }
64 }% v2.10 or later
65 {%
66 \cs_gset_protected:Npn \acro_write_short:nn #1#2
67 {
68     \mode_if_horizontal:F { \leavevmode }
```

```

69  \group_begin:
70    \bool_if:NTF \l_acro_custom_format_bool
71      { \l_acro_custom_format_tl }
72      { \l_acro_short_format_tl }
73      {\LWR@textcurrentfont{#2}}% lwarp
74    \group_end:
75  }
76
77 \cs_gset_protected:Npn \acro_write_alt:nn #1#2
78 {
79   \mode_if_horizontal:F { \leavevmode }
80   \group_begin:
81     \bool_if:NTF \l_acro_custom_format_bool
82       { \l_acro_custom_format_tl }
83       { \l_acro_alt_format_tl }
84       {\LWR@textcurrentfont{#2}}% lwarp
85   \group_end:
86 }
87
88 \cs_gset_protected:Npn \acro_write_long:nn #1#2
89 {
90   \mode_if_horizontal:F { \leavevmode }
91   \group_begin:
92     \bool_if:NTF \l_acro_custom_long_format_bool
93       { \l_acro_custom_long_format_tl }
94       { \use:n }
95   {
96     \use:x
97   {
98     \exp_not:n {#1}
99   {
100       \bool_if:NTF \l_acro_first_upper_bool
101         { \exp_not:N \__acro_first_upper_case:n { \exp_not:n {
102           \LWR@textcurrentfont{#2}}% lwarp
103         } } }
104         { \exp_not:n { \LWR@textcurrentfont{#2} } }% lwarp
105       }
106     }
107   }
108   \group_end:
109 }
110 }% before v2.10
111 \ExplSyntaxOff

```

File 13 **lwarp-acronym.sty**

§ 113 Package **acronym**

(Emulates or patches code by TOBIAS OETIKER.)

Pkg acronym acronym is patched for use by lwarp.

⚠ multiply-defined labels \acresetall does not work with cleveref, causing multiply-defined labels. lwarp

patches `acronym` for HTML, but not for print mode.

for HTML output: 1 \LWR@ProvidesPackagePass{acronym}[2015/03/21]

Uses `\textit` instead of `\itshape`:

```
2 \renewcommand{\acfia}[1]{%
3   {\textit{\AC@acl{#1}}}} (\ifAC@starred\acs*{#1}\else\acs{#1}\fi)}
```

Removes the `mbox` to allow math inside:

```
4 \renewcommand*\AC@acs[1]{%
5 %     \mbox{%
6 \expandafter\AC@get\csname fn@\#1\endcsname\@firstoftwo{#1}%
7 % }}
```

Fix for acronym labels in the captions of floats.

```
8 \renewcommand{@starttoc}[1]{%
9 \LWR@htmlelementclass{nav}{#1}
10 \LetLtxMacro{\verridelabel}{\gobble}
11 \LWR@orig@starttoc{#1}
12 \LWR@htmlelementclassend{nav}{#1}
13 }
```

Modified for `cleveref` and `l warp`:

```
14 \renewcommand*\AC@und@newl@bel[3]{%
15   \@ifundefined{#1@#3}{%
16     {%
17       \global\expandafter\let\csname#2@#3\endcsname\@nnil
18       \global\expandafter\let\csname#2@#3@l warp\endcsname\@nnil% l warp
19       \global\expandafter\let\csname#2@#3@cref\endcsname\@nnil% l warp
20     }%
21     {%
22       \global\expandafter\let\csname#1@#3\endcsname\relax
23       \global\expandafter\let\csname#1@#3@l warp\endcsname\relax% l warp
24       \global\expandafter\let\csname#1@#3@cref\endcsname\relax% l warp
25     }%
26   }%
```

File 14 **l warp-adjmulticol.sty**

§ 114 Package **adjmulticol**

(Emulates or patches code by BORIS VEYTSMAN.)

Pkg `adjmulticol` `adjmulticol` is emulated.

Emulation similar to `multicols` is used, with adjusted margins. If the number of columns is specified as 1, it is set so, but if two or greater are used, `l warp` allows a variable number of columns up to three.

for HTML output: 1 \LWR@ProvidesPackageDrop{adjmulticol}[2012/01/20]

2 \RequirePackage{multicol}

adjmulticols * {*numcols*} {*left margin*} {*right margin*}
 3 \NewDocumentEnvironment{adjmulticols}{s m m m}
 4 {%

Compute the margins, and limit to positive only:

5 \setlength{\LWR@templengthone}{#3} %
 6 \ifdimcomp{\LWR@templengthone}{<}{0pt}{\setlength{\LWR@templengthone}{0pt}}{}%
 7 \setlength{\LWR@templengthtwo}{#4} %
 8 \ifdimcomp{\LWR@templengthtwo}{<}{0pt}{\setlength{\LWR@templengthtwo}{0pt}}{}%

If one column is specified, use a <div> of class `singlecolumn`, else use `multicols`:

9 \newcommand*{\LWR@mcolstype}{multicols}%
 10 \ifnumcomp{#2}{=}{1}{\renewcommand*{\LWR@mcolstype}{singlecolumn}}{}%

Help avoid page overflow:

11 \LWR@forcenewpage%

Create the <div> with the given margin and class:

12 \BlockClass[%
 13 \LWR@print@mbox{margin-left:\LWR@printlength{\LWR@templengthone}} ; %
 14 \LWR@print@mbox{margin-right:\LWR@printlength{\LWR@templengthtwo}}%
 15]{\LWR@mcolstype} %
 16 }
 17 {\endBlockClass}

File 15 lwarf-addlines.sty

§ 115 Package **addlines**

(Emulates or patches code by WILL ROBERTSON.)

Pkg addlines **addlines** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{addlines}[2018/12/05]

2 \newcommand\addlines{@ifstar\addlines@a\addlines@a}
 3 \newcommand\addlines@a[1][1]{}
 4 \let\addline\addlines
 5 \newcommand\removelines{@ifstar\removelines@a\removelines@a}
 6 \newcommand\removelines@a[1][1]{}
 7 \let\removeline\removelines
 8 \newcommand\squeezepage[1][0]{}

File 16 l warp-afterpage.sty**§ 116 Package afterpage**

(Emulates or patches code by DAVID CARLISLE.)

Pkg afterpage afterpage is emulated.

for HTML output: Discard all options for l warp-afterpage:

```
1 \LWR@ProvidesPackageDrop{afterpage}[2014/10/28]  
2 \newcommand{\afterpage}[1]{#1}
```

File 17 l warp-algorithm2e.sty**§ 117 Package algorithm2e**

(Emulates or patches code by CHRISTOPHE FIORIO.)

Pkg algorithm2e algorithm2e is patched for use by l warp.

For print output, captions are placed according to package options, but for HTML output captions are placed where used. Therefore, to have captions appear at the top of the algorithms for both print and HTML, place each captions at the top of each algorithm.

for HTML output: 1 \LWR@ProvidesPackagePass{algorithm2e}[2017/07/18]

For the list-of entries:

```
2 \renewcommand{\l@algocf}[2]{\hypertocfloat{1}{\algocf}{\loa}{#1}{#2}}
```

Select the l warp float style according to the algorithm2e style:

```
3 \newcommand*{\LWR@floatstyle@algocf}{ruled}  
4  
5 \ifdefstring{\algocf@style}{boxed}{%  
6 \renewcommand*{\LWR@floatstyle@algocf}{boxed}  
7 }{}  
8  
9 \ifdefstring{\algocf@style}{boxruled}{%  
10 \renewcommand*{\LWR@floatstyle@algocf}{boxruled}  
11 }{}  
12  
13 \ifdefstring{\algocf@style}{plain}{%  
14 \renewcommand*{\LWR@floatstyle@algocf}{plain}  
15 }{}}
```

Paragraph handling to allow line numbers under certain conditions:

```

16 \newbool{LWR@algocf@dopars}
17 \booltrue{LWR@algocf@dopars}
18
19 \renewcommand{\algocf@everypar}{%
20 \ifbool{LWR@algocf@dopars}{%
21   \ifbool{LWR@doingstartpars}{%
22     \ifnumcomp{\value{LWR@lateximagedepth}}{0}{%
23       }{%
24       \algocf@everyparnl\algocf@everyparhanging%
25     }{%
26   }{%
27 }{%
28 }{%
29 }

```

lwarp caption handling:

```

30 \renewcommand{\algocf@makecaption}[2]{%
31 \LWR@HTML@caption@begin{\algocf}%
32 \LWR@isolate{\algocf@captiontext{\#1}{\#2}}%
33 \LWR@HTML@caption@end%
34 }

```

Print any caption where it is declared:

```

35 \renewcommand{\algocf@makecaption@plain}[2]{%
36   \LWR@HTML@caption@begin{\algocf}%
37   \LWR@isolate{\algocf@captiontext{\#1}{\#2}}%
38   \LWR@HTML@caption@end%
39 }
40
41 \renewcommand{\algocf@makecaption@boxed}[2]{%
42   \LWR@HTML@caption@begin{\algocf}%
43   \LWR@isolate{\algocf@captiontext{\#1}{\#2}}%
44   \LWR@HTML@caption@end%
45 }
46
47 \renewcommand{\algocf@makecaption@ruled}[2]{%
48   \LWR@HTML@caption@begin{\algocf}%
49   \LWR@isolate{\algocf@captiontext{\#1}{\#2}}%
50   \LWR@HTML@caption@end%
51 }

```

Turn off line numbering while making the caption:

```

52 \long\def\algocf@latexcaption#1[#2]#3{%
53   \boolexpr{LWR@algocf@dopars}{%
54     \par%
55     \addcontentsline{\csname ext@#1\endcsname}{#1}%
56     {\protect\numberline{\csname the#1\endcsname}{\ignorespaces \LWR@isolate{#2}}}}%
57     \begingroup%
58     \parboxrestore%
59     \if@minipage%

```

```

60      \setminipage%
61      \fi%
62      \normalsize%
63      \makecaption{\csname fnum@\#1\endcsname}{\ignorespaces #3}\par%
64      \endgroup%
65 \booltrue{LWR@algocf@dopars}%
66 }%

```

Line numbers are printed in a of class alg2elinenumber:

```

67 \renewcommand{\algocf@printnl}[1]{%
68     \InlineClass{alg2elinumber}{\NlSty{\#1}}~%
69 }%

```

While initializing an algorithm environment, locally declare the style of a regular figure to be the same as the algorithm style, in case the figure option was used.

```

70 \preto{\algocf@init}{%
71     \edef\LWR@floatstyle@figure{\LWR@floatstyle@algocf}%
72 }%

```

For `lwarp`, the algorithm is not assembled inside a box, since `\textrimage`s would not work, so the captions are printed where declared.

```

73 \renewcommand{\@algocf@start}{%
74     \let{@mathsemicolon}=;\def{}{\ifmmode{@mathsemicolon}\else{\endalgoln}\fi}%
75 %     \raggedright%
76     \AlFnt{}%
77     \booltrue{LWR@algocf@dopars}%
78 }%
79
80 \renewcommand{\@algocf@finish}{%
81     \boolfalse{LWR@algocf@dopars}%
82     \lineskip\normallineskip\setlength{\skiptotal}{\@defaultskiptotal}%
83     \let{}=\@mathsemicolon%
84     \let[]={\emathdisplay}%
85 }%

```

Use an HTML break:

```

86 \renewcommand{\BlankLine}{%
87 \LWR@stoppars%
88 \LWR@htmlltagc{br /}%
89 \LWR@startpars%
90 }%

```

Simplified for HTML. The paragraph handling must be preserved.

```

91 \renewcommand{\SetKwInOut}[2]{%
92     \algocf@newcommand{\#1}[1]{%
93         \ifthenelse{\boolean{algocf@hanginginout}}{%
94             \relax%
95             \algocf@seteveryparhanging{\relax}}{%
96             \ifthenelse{\boolean{algocf@inoutnumbered}}{%

```

```

97      {\relax}%
98      {\algocf@seteveryparnl{\relax}}%
99  {%
100      \KwSty{#2\algocf@typo:}%
101      ~##1\par%
102  }%
103      \algocf@linesnumbered% reset the numbering of the lines
104      \ifthenelse{\boolean{\algocf@hanginginout}}{%
105          {\relax}%
106          {\algocf@reseteveryparhanging}}%
107  }%
108 }%
109
110 \renewcommand{\ResetInOut}[1]{}

```

Each of the following creates a <div> of a given class, and turns off line numbering while creating the <div> tags:

```

111 \renewcommand{\algocf@Vline}[1]{%
112 \boolfalse{LWR@algocf@dopars}%
113 \begin{BlockClass}{alg2evline}%
114 \booltrue{LWR@algocf@dopars}%
115 #1
116 \boolfalse{LWR@algocf@dopars}%
117 \end{BlockClass}%
118 \booltrue{LWR@algocf@dopars}%
119 }

120 \renewcommand{\algocf@Vsline}[1]{%
121 \boolfalse{LWR@algocf@dopars}%
122 \begin{BlockClass}{alg2evsline}%
123 \booltrue{LWR@algocf@dopars}%
124 #1
125 \boolfalse{LWR@algocf@dopars}%
126 \end{BlockClass}%
127 \booltrue{LWR@algocf@dopars}%
128 }

129 \renewcommand{\algocf@Noline}[1]{%
130 \boolfalse{LWR@algocf@dopars}%
131 \begin{BlockClass}{alg2enoline}%
132 \booltrue{LWR@algocf@dopars}%
133 #1
134 \boolfalse{LWR@algocf@dopars}%
135 \end{BlockClass}%
136 \booltrue{LWR@algocf@dopars}%
137 }

```

The [H] environment is converted to a regular float, which in HTML is placed where declared. Reusing the regular float allows the [H] version to reuse the ruled and boxed options.

```

138 \LetLtxMacro{\algocf@Here}{\algocf
139 \LetLtxMacro{\endalgocf@Here}{\endalgocf
137 }

```

File 18 l warp-algorithmicx.sty**§ 118 Package algorithmicx**

(Emulates or patches code by Szász János.)

Pkg algorithmicx algorithmicx is supported with minor adjustments.

for HTML output: 1 \LWR@ProvidesPackagePass{algorithmicx}[2005/04/27]

Inside the `algorithmic` environment, level indenting is converted to a `` of the required length, and comments are placed inside a `` which is floated right.

 **package conflicts** If using `\newfloat`, `trivfloat`, and/or `algorithmicx` together, see section 541.1.

for HTML output: 2 \begin{warpHTML}

```
3 \AtBeginEnvironment{algorithmic}{%
4 %
5 \let\origALG@doentity\ALG@doentity%
6 %
7 \renewcommand*\ALG@doentity{%
8 \origALG@doentity%
9 \LWR@htmltagc{%
10 span style="width:\LWR@printlength{\ALG@thistlm}; display:inline-block;"%
11 }%
12 \ifbool{FormatWP}{%
13 \setlength{\LWR@templengthone}{\the\ALG@thistlm}%
14 \whiledo{\lengthtest{\LWR@templengthone>1em}}{%
15 \quad%
16 \addtolength{\LWR@templengthone}{-1em}%
17 }%
18 }{%
19 \LWR@htmltagc{/span}%
20 }%
21
22 \let\LWR@origComment\Comment%
23
24 \renewcommand{\Comment}[1]{%
25   \InlineClass{floatright}{\LWR@origComment{#1}}%
26 }%
27 }
28
29 \renewcommand\algorithmiccomment[1]{%
30 \hfill\HTMLunicode{25B7} #1% white right triangle
31 }%
32 \end{warpHTML}
```

File 19 l warp-alltt.sty

§ 119 Package **alltt**

(Emulates or patches code by JOHANNES BRAAMS.)

Pkg alltt alltt is patched for use by l warp.

for HTML output:

```
1 \LWR@ProvidesPackagePass{alltt}[1997/06/16]

2 \AfterEndPreamble{
3 \LWR@traceinfo{Patching alltt.}
4 \AtBeginEnvironment{alltt}{%
5 \LWR@forcenewpage
6 \LWR@atbeginverbatim{3}{alltt}%
7 }
8 \AfterEndEnvironment{alltt}{%
9   \LWR@afterendverbatim{2}%
10 }
11 }
```

File 20 l warp-amsmath.sty

§ 120 Package **amsmath**

(Emulates or patches code by AMERICAN MATHEMATICAL SOCIETY, LATEX3 PROJECT.)

Pkg amsmath amsmath is patched for use by l warp.

for HTML output:

```
1 \LWR@ProvidesPackagePass{amsmath}[2017/09/02]
```

Patches to allow \eqref inside a caption:

```
2 \def\maketag@@@{\text{\#1}}
3 \def\tagform@{\maketag@@@{(\ignorespaces\#1\unskip)}}
```

Patches for AMS math \tag macro to remember the first tag:

```
4 \ifbool{mathjax}{}{%
5   \LetLtxMacro{\LWR@origmake@df@tag@@}{\make@df@tag@@}
6   \LetLtxMacro{\LWR@origmake@df@tag@@@}{\make@df@tag@@@}
7   \renewcommand*{\make@df@tag@@}[1]{%
8     \LWR@remembertag{\#1}%
9     \LWR@origmake@df@tag@@{\#1}%
10    \LWR@origmake@df@tag@@{\#1}%
11  }%
12 }
```

```

13
14 \renewcommand*\{\make@df@tag@@@}[1]{%
15 \LWR@remembertag{#1}%
16 \LWR@origmake@df@tag@@@{#1}%
17 }
18
19 }% not mathjax

```

For nesting \mathcal{AM} S environments:

```

20 \newcounter{LWR@amsmathdepth}
21 \setcounter{LWR@amsmathdepth}{0}

```

The following \mathcal{AM} S environments are patched in-place:

`\LWR@amsmathenv@@before * {<environment name>}`
 * if the environment was starred.
 Embeds the environment inside a `lateximage`.

```

22 \NewDocumentCommand{\LWR@amsmathenv@@before}{s m}{%
23   \IfBooleanTF{#1}{%
24     \begin{BlockClass}{displaymath}
25   }{%
26     \begin{BlockClass}{displaymathnumbered}
27   }
28   \LWR@newautoidanchor%
29   \booltrue{LWR@indisplaymathimage}%
30   \begin{lateximage}[\LWR@amsmathbodynumbered{#1}]*
31   \LWR@applyxfakebold%
32 }

```

`\LWR@amsmathenv@@before * {<environment name>}`
 * if the environment was starred.
 Embeds the environment with MATHJAX or a `lateximage`.

```

33 \NewDocumentCommand{\LWR@amsmathenv@@before}{s m}{%
34   \ifnumequal{\value{LWR@amsmathdepth}}{0}{%
35     \LWR@stoppars%
36     \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }{%
37       \LWR@syncmathjax
38       \boolfalse{LWR@amsmultiline}
39       \ifstrequal{#2}{multiline}{\booltrue{LWR@amsmultiline}}{}%
40       \ifstrequal{#2}{multiline*}{\booltrue{LWR@amsmultiline}}{}%
41     }
42   }

```

⚠ autonum's "+" environments are not supported by MATHJAX.

```

42   \LWR@beginhideamsmath
43 }
44 {
45   \IfBooleanTF{#1}{%
46     \LWR@amsmathenv@@before*{#2}
47   }{%
48     \LWR@amsmathenv@@before{#2}

```

```

49          }
50      }
51  }{}
52  \addtocounter{LWR@amsmathdepth}{1}
53 }
```

\LWR@amsmathenv@@after

Embeds the environment inside a `lateximage`.

```

54 \newcommand*{\LWR@amsmathenv@@after}{%
55   \end{lateximage}\end{BlockClass}\LWR@startpars%
56 }
```

\LWR@amsmathenv@@after * {*environment name*}

* if the environment was starred. Ignored here, only used for a consistent syntax.

Embeds the environment with `MATHJAX` or a `lateximage`.

```

57 \NewDocumentCommand{\LWR@amsmathenv@@after}{s m}{%
58   \ifnumequal{\value{LWR@amsmathdepth}}{1}{%
59     \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }{%
60       {
61         \LWR@endhideamsmath
62         \boolfalse{LWR@amsmultline}
63         \LWR@addmathjax{#2}{\the\@envbody}
64       }
65     }{\LWR@amsmathenv@@after}}
```

Clear the single-use alt text:

```

66   \gdef\LWR@ThisAltText{}%
67   }{%
68   \addtocounter{LWR@amsmathdepth}{-1}
69 }
```

Env `multiline`

```

70 \BeforeBeginEnvironment{multiline}{\LWR@amsmathenv@before{multiline}}
71
72 \AfterEndEnvironment{multiline}{\LWR@amsmathenv@after{multiline}}
```

Env `multiline*`

```

73 \BeforeBeginEnvironment{multiline*}{\LWR@amsmathenv@before*{multiline*}}
74
75 \AfterEndEnvironment{multiline*}{\LWR@amsmathenv@after*{multiline*}}
76
```

Env `gather`

```

77 \BeforeBeginEnvironment{gather}{\LWR@amsmathenv@before{gather}}
78
79 \AfterEndEnvironment{gather}{\LWR@amsmathenv@after{gather}}
```

```
Env  gather*
80 \BeforeBeginEnvironment{gather*}{\LWR@amsmathenv@before*{gather*}}
81
82 \AfterEndEnvironment{gather*}{\LWR@amsmathenv@after*{gather*}}


Env  align
83 \BeforeBeginEnvironment{align}{\LWR@amsmathenv@before{align}}
84
85 \AfterEndEnvironment{align}{\LWR@amsmathenv@after{align}}


Env  align*
86 \BeforeBeginEnvironment{align*}{\LWR@amsmathenv@before*{align*}}
87
88 \AfterEndEnvironment{align*}{\LWR@amsmathenv@after*{align*}}


Env  flalign
89 \BeforeBeginEnvironment{flalign}{\LWR@amsmathenv@before{flalign}}
90
91 \AfterEndEnvironment{flalign}{\LWR@amsmathenv@after{flalign}}


Env  flalign*
92 \BeforeBeginEnvironment{flalign*}{\LWR@amsmathenv@before*{flalign*}}
93
94 \AfterEndEnvironment{flalign*}{\LWR@amsmathenv@after*{flalign*}}


Env  alignat
95 \BeforeBeginEnvironment{alignat}{\LWR@amsmathenv@before{alignat}}
96
97 \AfterEndEnvironment{alignat}{\LWR@amsmathenv@after{alignat}}


Env  alignat*
98 \BeforeBeginEnvironment{alignat*}{\LWR@amsmathenv@before*{alignat*}}
99
100 \AfterEndEnvironment{alignat*}{\LWR@amsmathenv@after*{alignat*}}
```

For MATHJAX:

```
101 \begin{warpMathJax}
102 \CustomizeMathJax{\newcommand{\intertext}[1]{\text{\#1}\notag \\}}
103 \end{warpMathJax}
```

File 21 l warp-amsthm.sty

§ 121 Package **amsthm**

(Emulates or patches code by PUBLICATIONS TECHNICAL GROUP—AMERICAN MATHEMATICAL SOCIETY.)

The original source code is located in `amsclass.dtx`, and printed in `amsclass.pdf`.

Pkg amsthm amsthm is patched for use by l warp.

Table 14: amsthm package—css styling of theorems and proofs

Theorem: <div> of class `amsthmbody<theoremstyle>`

Theorem Name: of class `amsthmname<theoremstyle>`

Theorem Number: of class `amsthmnumber<theoremstyle>`

Theorem Note: of class `amsthmnote<theoremstyle>`

Proof: <div> of class `amsthmproof`

Proof Name: of class `amsthmproofname`

where <theoremstyle> is plain, definition, etc.

for HTML output: amsthm must be loaded before mdframed:

```

1 \@ifpackageloaded{mdframed}{
2   \PackageError{l warp}
3   {Package mdframed must be loaded after package amsthm}
4   {%
5     Move \detokenize{\usepackage}{amsthm} before
6     \detokenize{\usepackage}{mdframed}. \MessageBreak
7     Package amsthm may be loaded by something else, \MessageBreak
8     which must also be moved before mdframed.%}
9   }
10 }
11 {}
```

12 \LWR@ProvidesPackagePass{amsthm}[2017/10/31]

Storage for the style being used for new theorems:

13 \newcommand{\LWR@newtheoremstyle}{plain}

Patched to remember the style being used for new theorems:

```

14 \renewcommand{\theoremstyle}[1]{%
15   \@ifundefined{th@#1}{%
```

```

16   \PackageWarning{amsthm}{Unknown theoremstyle '#1'}%
17   \thm@style{plain}%
18   \renewcommand{\LWR@newtheoremstyle}[1]{\thm@style{#1}}% l warp
19 }{%
20   \thm@style{#1}%
21   \renewcommand{\LWR@newtheoremstyle}[1]{\thm@style{#1}}% l warp
22 }%
23 }

```

Patched to remember the style for this theorem type:

```

24 \def\xnethm#1#2{%
25   \csedef{\LWR@thmstyle#2}{\LWR@newtheoremstyle}% l warp
26   \let\tempa\relax
27   \expandafter\ifdefinable\csname #2\endcsname{%
28     \global\expandafter\let\csname end#2\endcsname\endtheore
29     \ifx *#1% unnumbered, need to get one more mandatory arg
30       \edef\tempa##1{%
31         \gdef\expandafter\csname#2\endcsname{%
32           \expandafter\at\thm{\expandafter\csname the\thm@style\endcsname}%
33           {##1}}%
34     \else % numbered theorem, need to check for optional arg
35       \def\tempa{\oparg{\ynthm{#2}}[]}%
36     \fi
37     \AtBeginEnvironment{#2}{\edef\LWR@thisthmstyle{\nameuse{\LWR@thmstyle#2}}}% l warp
38   }%
39   \tempa
40 }

```

Patched to enclose with css:

```

41 \newcommand{\LWR@haveamsthmname}{%
42 \renewcommand{\thmname}[1]{\InlineClass{amsthmname}\LWR@thisthmstyle{##1}}%
43 }%
44
45 \newcommand{\LWR@haveamsthmnumber}{%
46 \renewcommand{\thmnumber}[1]{\InlineClass{amsthmnumber}\LWR@thisthmstyle{##1}}%
47 }%
48
49 \newcommand{\LWR@haveamsthmnote}{%
50 \renewcommand{\thmnote}[1]{\InlineClass{amsthmnote}\LWR@thisthmstyle{##1}}%
51 }%
52
53 \LWR@haveamsthmname
54 \LWR@haveamsthmnumber
55 \LWR@haveamsthmnote

```

Patches for css:

```

56 \def\begintheorem#1#2[#3]{%
57   \item[%
58 %   \deferred@thm@head{%
59 %     \the\thm@headfont \thm@indent
60   \ifeempty{#1}{\let\thmname@gobble{\LWR@haveamsthmname}}% l warp
61   \ifeempty{#2}{\let\thmnumber@gobble{\LWR@haveamsthmnumber}}% l warp

```

```

62  \@ifempty{#3}{\let\thmnote\@gobble}{\LWR@haveamsthmnote}% lwarp
63  \thm@swap\swappedhead\thmhead{#1}{#2}{#3}%
64  \the\thm@headpunct~%
65  \thmheadnl % possibly a newline.
66  \hskip\thm@headsep
67 }%
68 ]
69 \ignorespaces}

```

Patched for css:

```

70 \def\@thm#1#2#3{%
71  \ifhmode\unskip\unskip\par\fi
72  \normalfont
73  \LWR@forcenewpage% lwarp
74  \BlockClass{amsthmbody}\LWR@thisthmstyle}% lwarp
75  \trivlist
76  \let\thmheadnl\relax
77  \let\thm@swap\@gobble
78  \thm@notefont{\fontseries\mddefault\upshape}%
79  \thm@headpunct{.}% add period after heading
80  \thm@headsep 5\p@ plus\p@ minus\p@\relax
81  \thm@space@setup
82  #1% style overrides
83  \topsep \thm@preskip % used by thm head
84  \topsepadd \thm@postskip % used by \endparenv
85  \def\@tempa{#2}\ifx\@empty\@tempa
86    \def\@tempa{\oparg{\begin{theorem}{#3}[]}}%
87  \else
88    \refstepcounter{#2}%
89    \def\@tempa{\oparg{\begin{theorem}{#3}{\csname the#2\endcsname}[]}}%
90  \fi
91  \@tempa
92 }

```

`cleveref` patches `\@thm` to do `\cref@thmoptarg` if an optional argument is given. `lwarp` then patches `\cref@thmoptarg` `\AtBeginDocument`.

```

93 \AtBeginDocument{%
94 \def\cref@thmoptarg[#1]#2#3#4{%
95  \ifhmode\unskip\unskip\par\fi%
96  \normalfont%
97  \LWR@forcenewpage% lwarp
98  \BlockClass{amsthmbody}\LWR@thisthmstyle}% lwarp
99  \trivlist
100 \let\thmheadnl\relax%
101 \let\thm@swap\@gobble%
102 \thm@notefont{\fontseries\mddefault\upshape}%
103 \thm@headpunct{.}% add period after heading
104 \thm@headsep 5\p@ plus\p@ minus\p@\relax%
105 \thm@space@setup%
106 #2% style overrides
107 \topsep \thm@preskip % used by thm head
108 \topsepadd \thm@postskip % used by \endparenv
109 \def\@tempa{#3}\ifx\@empty\@tempa%

```

```

110      \def\@tempa{\@oparg{\@begintheorem{#4}{}}[]}%
111  \else%
112      \refstepcounter[#1]{#3}% << cleveref modification
113      \def\@tempa{\@oparg{\@begintheorem{#4}{\csname the#3\endcsname}}[]}%
114  \fi%
115  \@tempa
116 }%
117 }% AtBeginDocument
118
119 \def\@endtheorem{\endtrivlist\endBlockClass\@endpefalse }

```

Proof QED symbol:

```

120 \AtBeginDocument{
121 \@ifundefined{LWR@orig@openbox}%
122 \LetLtxMacro{\LWR@orig@openbox}{\openbox}
123 \LetLtxMacro{\LWR@orig@blacksquare}{\blacksquare}
124 \LetLtxMacro{\LWR@orig@Box}{\Box}
125
126 \def\openbox{\text{\HTMLunicode{25A1}}}% UTF-8 white box
127 \def\blacksquare{\text{\HTMLunicode{220E}}}% UTF-8 end-of-proof
128 \def\Box{\text{\HTMLunicode{25A1}}}% UTF-8 white box
129
130 \appto{\LWR@restoreorigformatting}{%
131 \LetLtxMacro{\openbox}{\LWR@orig@openbox}%
132 \LetLtxMacro{\blacksquare}{\LWR@orig@blacksquare}%
133 \LetLtxMacro{\Box}{\LWR@orig@Box}%
134 }% appto
135 }{}% @ifundefined
136 }% AtBeginDocument

```

Patched for css:

```

137 \renewenvironment{proof}[1][\proofname]{\par
138 \LWR@forcenewpage% lwarp
139     \BlockClass{amsthmproof}% lwarp
140     \pushQED{\qed}%
141     \normalfont \topsep6\p@\relax
142     \trivlist
143     \item[
144         \InlineClass{amsthmproofname}{\#1\@addpunct{.}}]\ignorespaces% changes
145 }{%
146     \InlineClass{theoremendmark}{\popQED}\endtrivlist%
147     \endBlockClass% lwarp
148     \endpefalse
149 }

```

File 22 **lwarp-anonchap.sty**

§ 122 Package **anonchap**

(Emulates or patches code by PETER WILSON.)

Pkg anonchap anonchap is emulated.

⚠ tocloft & other packages If using tocloft with tocbibind, anonchap, fncychap, or other packages which change chapter title formatting, load tocloft with its titles option, which tells tocloft to use standard L^AT_EX commands to create the titles, allowing other packages to work with it.

The code is shared by tocbibind.

for HTML output: 1 \LWR@ProvidesPackageDrop{anonchap}[2009/08/03]

```

2 \newcommand{\simplechapter}[1][\empty{}]{%
3   \def\@chapcntformat##1{%
4     #1\csname the##1\endcsname\simplechapterdelim\quad%
5   }%
6 }
7
8 \newcommand{\restorechapter}{%
9 \let\@chapcntformat\@seccntformat%
10 }
```

File 23 lwarf-any size.sty

§ 123 Package **any size**

(Emulates or patches code by MICHAEL SALZENBERG, THOMAS ESSER.)

Pkg anysize anysize is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{any size}[1994/08/13]

```

2 \def\papersize#1#2{%
3 \def\marginsize#1#2#3#4{}
```

File 24 lwarf-appendix.sty

§ 124 Package **appendix**

(Emulates or patches code by PETER WILSON.)

Pkg appendix appendix is patched for use by lwarf.

⚠ incorrect toc link During HTML conversion, the option toc without the option page results in a toc link to whichever section was before the appendices environment. It is recommended to use both toc and also page at the same time.

for HTML output: 1 \LWR@ProvidesPackagePass{appendix}[2009/09/02]

```

2 \renewcommand*\@chap@pppage{%
3 \part*\{\appendixpagename}
```

```

4 \if@dotoc@pp
5 \addappheadtotoc
6 \fi
7 }
8
9 \renewcommand*{\@sec@pppage}{%
10 \part*{\appendixpagename}
11 \if@dotoc@pp
12 \addappheadtotoc
13 \fi
14 }
```

File 25 **l warp-ar.sty**

§ 125 Package **ar**

(Emulates or patches code by AGOSTINO DE MARCO.)

Pkg ar ar is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{ar}[2012/01/23]

Measure and print the width of the supplied glyph.

```

2 \newlength{\LWR@ar@width}
3
4 \newcommand*{\LWR@ar@printwidth}[1]{%
5   \setlength{\LWR@ar@width}{\widthof{#1}}%
6   width:%
7   \LWR@convertto{em}{\the\LWR@ar@width}em%
8 }
```

The HTML version of \AR:

```
9 \newrobustcmd*{\LWR@HTML@AR}{%
```

Start a hashed \teximage, additionally hashed by the font series, with a width depending on the given glyph:

```
10 \begin{teximage}*[\AR][\LWR@f@series][\LWR@ar@printwidth{\LWR@print@AR}]%
```

For text mode, set the font series according to the HTML font series:

```
11 \ifmmode\else\csuse{\LWR@orig\LWR@f@series series}\fi%
```

Print the original glyph using the newly set font series:

```
12 \LWR@print@AR%
```

Done.

```

13     \end{lateximage}%
14 }

```

Combine the print and HTML versions:

```

15 \LWR@formatted{AR}

16 \newrobustcmd*{\LWR@HTML@ARb}{%
17     \begin{lateximage}*{[AR][b]}[\LWR@ar@printwidth{\LWR@print@ARb}]%
18     \LWR@print@ARb%
19     \end{lateximage}%
20 }
21 \LWR@formatted{ARb}

22 \newrobustcmd*{\LWR@HTML@ARss}{%
23     \begin{lateximage}*{[ARss]}[\LWR@f@series][\LWR@ar@printwidth{\LWR@print@ARss}]%
24     \ifmmode\else\csuse{\LWR@orig}\LWR@f@series series\fi%
25     \LWR@print@ARss%
26     \end{lateximage}%
27 }
28 \LWR@formatted{ARss}

29 \newrobustcmd*{\LWR@HTML@ARssb}{%
30     \begin{lateximage}*{[AR][ssb]}[\LWR@ar@printwidth{\LWR@print@ARssb}]%
31     \LWR@print@ARssb%
32     \end{lateximage}%
33 }
34 \LWR@formatted{ARssb}

35 \newrobustcmd*{\LWR@HTML@ARtt}{%
36     \begin{lateximage}*{[AR][tt]}[\LWR@ar@printwidth{\LWR@print@ARtt}]%
37     \LWR@print@ARtt%
38     \end{lateximage}%
39 }
40 \LWR@formatted{ARtt}

```

For MATHJAX:

```

41 \begin{warpMathJax}
42 \CustomizeMathJax{\newcommand{\AR}{\mathit{A}!`!R}}
43 \CustomizeMathJax{\newcommand{\ARB}{\boldsymbol{A}!`!R}}
44 \end{warpMathJax}

```

File 26 lwarp-arabicfront.sty

§ 126 Package **arabicfront**

Pkg arabicfront arabicfront is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{arabicfront}[2006/09/03]

File 27 **l warp-array.sty**

§ 127 Package **array**

Pkg **array** **array** is used as-is for print output, and emulated for **HTML**.

plarray and **plexarray** do not affect **\firsthline** or **\lasthline**, and so are not affected by the following.

Remove the default nullified macros:

```

1 \let\firsthline\relax
2 \let\lasthline\relax
3
4 \LWR@ProvidesPackagePass{array}[2018/12/30]

5 \newcommand*{\LWR@HTML@firsthline}{\LWR@HTMLhline}%
6 \LWR@expandableformatted{firsthline}
7
8 \newcommand*{\LWR@HTML@lasthline}{\LWR@HTMLhline}%
9 \LWR@expandableformatted{lasthline}

10 \providecommand*{\LWR@HTML@tabularnewline}{\LWR@tabularendofline}
11 \LWR@formatted{tabularnewline}
```

For **MATHJAX**:

```

12 \CustomizeMathJax{
13     \newcommand{\multicolumn}[3]{#3}% only uses one cell
14 }
```

File 28 **l warp-arydshln.sty**

§ 128 Package **arydshln**

(Emulates or patches code by HIROSHI NAKASHIMA.)

Pkg **arydshln** **arydshln** heavily patches tabular code, so the actual package is not used. **arydshln** is emulated for **HTML tabular**, and reverts to solid rules for **SVG math array** and **tabular** in a **lateXimage**.

css is not able to display a double-dashed border, so a single-dashed rule is displayed as a single-dashed border, and a double-dashed rule is displayed as a thicker single-dashed border.

For **MATHJAX**, limited emulation is provided for math mode.

for **HTML output**:

array is required to allow \newcolumn below.

```
1 \RequirePackage{array}
2 \LWR@ProvidesPackageDrop{arydshln}[2018/09/26]
```

Ignored, but included for source compatibility:

```
3 \newdimen\dashlinedash \dashlinedash4pt %
4 \newdimen\dashlinegap \dashlinegap4pt %
5 \let\hdashlinewidth\dashlinedash
6 \let\hdashlinegap\dashlinegap
7
8 \def\ADLnullwide{}
9 \def\ADLsomewide{}
10 \def\ADLnullwidehline{}
11 \def\ADLsomewidehline{}
12
13 \def\ADLactivate{}
14 \def\ADLinactivate{}
15 \newcommand*\{\ADLdrawingmode}[1]{}
16 \newcommand*\{\ADLno shorthanded}{}
17 \newcommand*\{\dashgapcolor}[2][]{}
18 \newcommand*\{\nodashgapcolor}{}{}
```

In a `lateximage`, revert to solid vertical rules:

```
19 \appto\LWR@restoreorigformatting{%
20 \newcolumntype{:}{|}%
21 \newcolumntype{;}{[]}{|}%
22 \LetLtxMacro{\dashline}{\hline}%
23 }
```

Some of these macros are already defined as temporary placeholders in the `lwarp` core, so they must be redefined here.

The emulated defaults also work for an emulated print mode inside a `lateximage`:

```
24 \def\hline{
25 %     \adl@hline\adl@ihline
26     \adl@hline\adl@inactivehdl
27 }
28 \def\adl@hline#1{\noalign{\ifnum0='}\fi
29 %     \ifadl@zhrule \vskip-\arrayrulewidth
30 %     \else
31 %         \adl@hline\adl@connect\arrayrulewidth
32 %             \hrule \height \arrayrulewidth\ lwarp
33 %     \fi
34     \@ifnextchar[%
35         {#1}%
36         {#1[%}
37 %             \dashlinedash/\dashlinegap
38             1pt/1pt
39         ]}{}{}}
```

```

40 % \def\adl@ihdashline[#1/#2]{\ifnum0='{\fi}%
41 %           \multispan{\adl@columns}\unskip \adl@hcline{z@[#1/#2]}%
42 %           \noalign{\ifnum0='}\fi
43 %           \futurelet@tempa\adl@xhline}
44 \def\adl@inactivehdl[#1/#2]{
45 %           \ifadl@zwhrule \vskip-\arrayrulewidth \fi
46 %           \hrule\height\arrayrulewidth
47 %           \futurelet@tempa\adl@xhline}
48 \def\adl@xhline{\ifx@\tempa\hline \adl@ixhline\fi
49 %           \ifx@\tempa\vhdashline \adl@ixhline\fi
50 %           \ifnum0='{\fi}%
51 \def\adl@ixhline{\vskip\doublerulesep \adl@hline\relax\doublerulesep}
52 \def\adl@hline#1#2{%
53 %   \tempcnta#2
54 %           \global\advance\adl@totalheight\tempcnta
55 %           \xdef\adl@rowsL{\adl@rowsL
56 %             (#1/\number\tempcnta); }%
57 %           \xdef\adl@rowsR{\adl@rowsR
58 %             (#1/\number\tempcnta); }
59 }
60
61 \def\cdashline#1{\noalign{\ifnum0='}\fi
62 %           \@ifnextchar[%]
63 %           {\adl@cdline[#1]}%
64 %           {\adl@cdline[#1][\dashlinedash/\dashlinegap]}%
65 %           {\adl@inactivecdl[#1]}%
66 %           {\adl@inactivecdl[#1][\dashlinedash/\dashlinegap]}%
67 }
68
69 \def\adl@inactivecdl[#1-#2][#3]{\ifnum0='{\fi}\cline{#1-#2}}
70 \begin{warpMathJax}
71 \CustomizeMathJax{\newcommand{\firstdashline}[1][]{\hdashline}}
72 \CustomizeMathJax{\let\lastdashline\firstdashline}
73 \CustomizeMathJax{\let\cdashline\cline}
74 \end{warpMathJax}

```

File 29 **l warp-asymptote.sty**

§ 129 Package **asymptote**

(Emulates or patches code by ANDY HAMMERLINDL, JOHN BOWMAN, TOM PRINCE.)

Pkg **asymptote** **asymptote** is patched for use by **l warp**.

To compile:

```

pdflatex project.tex
asy project-*.asy
pdflatex project.tex

lwarpmk print
asy project-*.asy
lwarpmk print1
lwarpmk print1

lwarpmk html
asy project_html-*.asy
lwarpmk html1
lwarpmk html1
lwarpmk limages
```

for HTML output: 1 \LWR@ProvidesPackagePass{asymptote}[2016/11/26]

```

2 \BeforeBeginEnvironment{asy}{%
3   \begin{lateximage}[-asymptote-\~\PackageDiagramAltText]%
4 }
5 \AfterEndEnvironment{asy}{\end{lateximage}}
6
7 \xpatchcmd{\asyinclude}
8   {\begingroup}
9   {\begin{lateximage}[-asymptote-\~\PackageDiagramAltText]}
10  {}
11  {\LWR@patcherror{asymptote}{asyinclude-begingroup}}
12
13 \xpatchcmd{\asyinclude}
14  {\endgroup}
15  {\end{lateximage}}
16  {}
17  {\LWR@patcherror{asymptote}{asyinclude-endgroup}}
```

File 30 **l warp-atbegshi.sty**

§ 130 Package **atbegshi**

(Emulates or patches code by HEIKO OBERDIEK.)

Pkg atbegshi atbegshi is ignored.

for HTML output: Discard all options for l warp-atbegshi:

```

1 \LWR@ProvidesPackageDrop{atbegshi}[2011/10/05]

2 \newcommand*{\AtBeginShipout}[1]{}
3 \newbox\AtBeginShipoutBox
4 \newcommand*{\AtBeginShipoutNext}[1]{}
5 \newcommand*{\AtBeginShipoutFirst}[1]{}
```

```

6 \newcommand*{\AtBeginShipoutDiscard}{}
7 \newcommand*{\AtBeginShipoutInit}{}
8 \newcommand*{\AtBeginShipoutAddToBox}[1]{}
9 \newcommand*{\AtBeginShipoutAddToBoxForeground}[1]{}
10 \newcommand*{\AtBeginShipoutUpperLeft}[1]{}
11 \newcommand*{\AtBeginShipoutUpperLeftForeground}[1]{}
12 \newcommand*{\AtBeginShipoutOriginalShipout}[1]{}
13 \def\AtBeginShipoutBoxWidth{0pt}
14 \def\AtBeginShipoutBoxHeight{0pt}
15 \def\AtBeginShipoutBoxDepth{0pt}
16

```

File 31 **lwarf-attachfile.sty**

§ 131 Package **attachfile**

(Emulates or patches code by SCOTT PAKIN.)

Pkg **attachfile** **attachfile** is patched for use by **lwarf**.

 Metadata is ignored for now.

for HTML output: 1 \LWR@ProvidesPackagePass{attachfile}[2016/09/18]

Encloses each icon:

```

2 \newenvironment*{\LWR@attachfile@icon}
3 {
4     \begin{lateximage}%
5         [-attachfile-]%
6         [%
7             \detokenize\expandafter{\atfi@icon@icon}-%
8             \detokenize\expandafter{\atfi@color@rgb}%
9         ]%
10 }
11 {
12     \end{lateximage}
13 }

```

Each icon is enclosed inside a **\LWR@attachfile@icon** environment:

```

14 \xpretocmd{\atfi@acroGraph}{\LWR@attachfile@icon}{}{}
15 \xapptocmd{\atfi@acroGraph}{\endLWR@attachfile@icon}{}{}
16
17 \xpretocmd{\atfi@acroPaperclip}{\LWR@attachfile@icon}{}{}
18 \xapptocmd{\atfi@acroPaperclip}{\endLWR@attachfile@icon}{}{}
19
20 \xpretocmd{\atfi@acroPushPin}{\LWR@attachfile@icon}{}{}
21 \xapptocmd{\atfi@acroPushPin}{\endLWR@attachfile@icon}{}{}
22
23 \xpretocmd{\atfi@acroTag}{\LWR@attachfile@icon}{}{}
24 \xapptocmd{\atfi@acroTag}{\endLWR@attachfile@icon}{}{}

```

Disable PDF file embedding:

```
25 \DeclareRobustCommand{\atfi@embedfile}[1]{}
```

The displayed output for an \attachfile reference:

```
26 \newcommand*{\LWR@attachfile@appearance}{}  
27  
28 \DeclareRobustCommand{\atfi@set@appearance}[1]{%  
29     \def\LWR@attachfile@appearance{\#1}%  
30 }
```

A file annotation becomes a reference:

```
31 \DeclareRobustCommand{\atfi@insert@file@annot}[1]{%  
32     \href{\#1}{\LWR@attachfile@appearance}%  
33 }
```

File 32 l warp-attachfile2.sty

§ 132 Package **attachfile2**

(Emulates or patches code by HEIKO OBERDIEK.)

Pkg attachfile2 attachfile2 is patched for use by l warp.



Metadata is ignored for now.

for HTML output: 1 \LWR@ProvidesPackagePass{attachfile2}[2016/05/16]

Adds memory of the selected color:

```
2 \def\LWR@attachfiletwo@color{}%  
3  
4 \define@key{AtFi}{color}{%  
5     \def\LWR@attachfiletwo@color{\#1}%    l warp  
6     \HyColor@AttachfileColor{\#1}%  
7         \atfi@color@tex\atfi@color@color@inline\atfi@color@annot  
8         {attachfile2}{color}}%  
9 }
```

Encloses each icon:

```
10 \newenvironment*{\LWR@attachfile@icon}  
11 {  
12     \begin{latentimage}*%  
13         [-attachfile-]%
```

[%
15 \detokenize\expandafter{\atfi@icon@icon}-%
16 \detokenize\expandafter{\LWR@attachfiletwo@color}}%
17]%

```
18 }
```

```

19 {
20     \end{lateximage}
21 }

```

Each icon is enclosed inside a `\LWR@attachfile@icon` environment:

```

22 \xpretocmd{\atfi@acroGraph}{\LWR@attachfile@icon}{}{}
23 \xapptocmd{\atfi@acroGraph}{\endLWR@attachfile@icon}{}{}
24
25 \xpretocmd{\atfi@acroPaperclip}{\LWR@attachfile@icon}{}{}
26 \xapptocmd{\atfi@acroPaperclip}{\endLWR@attachfile@icon}{}{}
27
28 \xpretocmd{\atfi@acroPushPin}{\LWR@attachfile@icon}{}{}
29 \xapptocmd{\atfi@acroPushPin}{\endLWR@attachfile@icon}{}{}
30
31 \xpretocmd{\atfi@acroTag}{\LWR@attachfile@icon}{}{}
32 \xapptocmd{\atfi@acroTag}{\endLWR@attachfile@icon}{}{}

```

Disable PDF file embedding:

```
33 \DeclareRobustCommand{\atfi@embedfile}[1]{}
```

The displayed output for an `\attachfile` reference:

```

34 \newcommand*{\LWR@attachfile@appearance}(){}
35
36 \def\atfi@set@appearance@icon{%
37     \atfi@set@appearance{\csname atfi@acro\atfi@icon@icon\endcsname}%
38 }
39
40 \DeclareRobustCommand{\atfi@set@appearance}[1]{%
41     \def\LWR@attachfile@appearance{\#1}%
42 }

```

A file annotation becomes a reference:

```

43 \DeclareRobustCommand{\atfi@insert@file@annot}[1]{%
44     \href{\#1}{\LWR@attachfile@appearance}%
45 }

```

Modified for text color:

```

46 \DeclareRobustCommand{\notextattachfile}[2][]{%
47     \begingroup
48     \atfi@setup{\#1}%
49     \ifatfi@print
50         \leavevmode
51         \begingroup
52             \HyColor@UseColor\atfi@color@tex
53             \LWR@textcurrentcolor{\#2}%
54             lwarp
55         \endgroup
56     \else
57         \sbox{\ltx@zero{\#2\strut}}%

```

```

58 %           \makebox[\wd0]{}
59   \fi
60 \endgroup
61 }

```

Modified to draw the icon:

```

62 \DeclareRobustCommand{\noattachfile}[1][]{%
63   \begingroup
64     \atfi@setup{#1}%
65     \atfi@set@appearance@icon
66     \ifatfi@print
67       \LWR@attachfile@appearance%      l warp
68 %       \expandafter
69 %       \atfi@refxform\csname atfi@appobj@\atfi@icon@icon\endcsname
70 %     \else
71 %       \makebox[\atfi@appearancewidth]{}
72     \fi
73   \endgroup
74 }

```

File 33 **l warp-authblk.sty**

§ 133 Package **authblk**

(Emulates or patches code by PATRICK W. DALY.)

Pkg authblk authblk is patched for HTML.

package support l warp supports the native L^AT_EX titling commands, and also supports the packages authblk and titling. If both are used, authblk should be loaded before titling.

\published and \subtitle If using the titling package, additional titlepage fields for \published and \subtitle may be added by using \AddSubtitlePublished in the preamble. See section 66.8.

(Emulates or patches code by PATRICK W. DALY.)

for HTML output: Require that authblk be loaded before titling:

```

1 \@ifpackageloaded{titling}{%
2 \PackageError{l warp-authblk}{%
3 Package authblk must be loaded before titling}%
4 {Titling appends authblk's author macro, so authblk must be loaded first.}%
5 }%
6 {}

```

Load authblk:

```
7 \LWR@ProvidesPackagePass{authblk}[2001/02/27]
```

Patch to add a class for the affiliation:

```

8 \LetLtxMacro{\LWRAB@affil}{\affil}
9
10 \renewcommand{\affil}[2][]{%
11 \LWRAB@affil[#1]{\protect\InlineClass{affiliation}{#2}}%
12 }

```

Create an HTML break for an \authorcr:

```
13 \renewcommand*{\authorcr}{\protect\LWR@newlinebr}
```

File 34 **l warp-autobreak.sty**

§ 134 Package **autobreak**

(Emulates or patches code by TAKAHIRO UEDA.)

Pkg **autobreak** **autobreak** is used as-is for SVG math, and nullified for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{autobreak}[2017/02/23]

For MATHJAX. The modified align environment is used for SVG math, but is reverted to its original for MATHJAX. (Extraneous commas were appearing in the result.)

```

2 \begin{warpMathJax}
3 \renewenvironment{autobreak}{\newcommand{\MoveEqLeft}[1]{}}
4 \let\start@align\@autobreak\oldstart@align
5 \let\endalign\@autobreak\oldendalign
6 \CustomizeMathJax{\newenvironment{autobreak}{}{}}
7 \CustomizeMathJax{\newcommand{\MoveEqLeft}[1][]{}}
8 \CustomizeMathJax{\newcommand{\everybeforeautobreak}[1]{}}
9 \CustomizeMathJax{\newcommand{\everyafterautobreak}[1]{}}
10 \end{warpMathJax}

```

File 35 **l warp-autonum.sty**

§ 135 Package **autonum**

Pkg **autonum** **autonum** is ignored.

⚠ **numbering** All equations are numbered in HTML output.

MATHJAX does not support the “+” environments.

for HTML output: 1 \LWR@ProvidesPackageDrop{autonum}[2015/01/18]

```

2 \RequirePackage{amsmath}
3
4
5 \newenvironment{equation+}{\equation}{\endequation}

```

```
6
7
8 \newenvironment{gather+}{\gather}{\endgather}
9
10 \BeforeBeginEnvironment{gather+}{\LWR@amsmathenv@@before{gather+}}
11
12 \AfterEndEnvironment{gather+}{\LWR@amsmathenv@@after}
13
14
15 \newenvironment{multiline+}{\multiline}{\endmultiline}
16
17 \BeforeBeginEnvironment{multiline+}{\LWR@amsmathenv@@before{multiline+}}
18
19 \AfterEndEnvironment{multiline+}{\LWR@amsmathenv@@after}
20
21
22 \newenvironment{flalign+}{\flalign}{\endflalign}
23
24 \BeforeBeginEnvironment{flalign+}{\LWR@amsmathenv@@before{flalign+}}
25
26 \AfterEndEnvironment{flalign+}{\LWR@amsmathenv@@after}
27
28
29 \newenvironment{align+}{\align}{\endalign}
30
31 \BeforeBeginEnvironment{align+}{\LWR@amsmathenv@@before{align+}}
32
33 \AfterEndEnvironment{align+}{\LWR@amsmathenv@@after}
34
35
36 \newenvironment{alignat+}{\alignat}{\endalignat}
37
38 \BeforeBeginEnvironment{alignat+}{\LWR@amsmathenv@@before{alignat+}}
39
40 \AfterEndEnvironment{alignat+}{\LWR@amsmathenv@@after}
41
42
43 \newenvironment{split+}{\split}{\endsplit}
```

File 36 l warp-awesomebox.sty**§ 136 Package awesomebox**

(Emulates or patches code by ÉTIENNE DEPARIS.)

Pkg awesomebox awesomebox is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{awesomebox}[2019/07/27]

```
2 \newcommand*\{\LWR@awesomebox@boxborders\}%
3 \newcommand*\{\LWR@awesomebox@contentsborders\}%
4
5 \newcommand*\{\LWR@awesomebox@ruleborders\}%
```

```
6      border-top: 1px solid black ;
7      border-bottom: 1px solid black%
8 }
9
10 \% awesomebox[1:vrulecolor][2:hrule][3:title]{4:vrulewidth}{5:icon}{6:iconcolor}{7:content}
11 \RenewDocumentCommand \awesomebox { 0{abvrulecolor} 0{} o m m m +m }{%
12     \begin{awesomeblock}{#1}[#2][#3]{#4}{#5}{#6}
13     #7
14     \end{awesomeblock}
15 }
16
17 \% \begin{awesomeblock}[1:vrulecolor][2:hrule][3:title]{4:vrulewidth}{5:icon}{6:iconcolor}
18 \% <contents>
19 \% \end{awesomeblock}
20 \RenewDocumentEnvironment{awesomeblock}{ 0{abvrulecolor} 0{} o m m m }
21 {%
22     \LWR@forceminwidth{#4}%
23     \convertcolorspec{named}{#1}{HTML}\LWR@tempcolor%
24     \renewcommand*\{\LWR@awesomebox@boxborders\}{%
25     \renewcommand*\{\LWR@awesomebox@contentsborders\}{%
26     \ifdefstreq{\abShortLine}{#2}{%
27         \renewcommand*\{\LWR@awesomebox@contentsborders\}{\LWR@awesomebox@ruleborders}%
28     }{%
29     \ifdefstreq{\abLongLine}{#2}{%
30         \renewcommand*\{\LWR@awesomebox@boxborders\}{\LWR@awesomebox@ruleborders}%
31     }{%
32     \begin{BlockClass}[\LWR@awesomebox@boxborders]{awesomebox}
33     \begin{BlockClass}[% 
34         margin-left: 2\% ;
35         vertical-align: top
36     ]{minipage}
37         \color{#6}\Huge #5
38     \end{BlockClass}
39     \begin{BlockClass}[% 
40         width:75\% ;
41         vertical-align: top ;
42         padding-left: 1em ;
43         \LWR@awesomebox@contentsborders ;
44         border-left: \LWR@printlength{\LWR@atleastonept} %
45             solid \LWR@origpound\LWR@tempcolor%
46     ]{minipage}
47         \IfValueTF{#3}{#3\newline}{}
48 }
49 {%
50     \end{BlockClass}
51     \end{BlockClass}
52 }
```

File 37 **lwarp-axessibility.sty**

§ 137 Package **axessibility**

Pkg axessibility axessibility is ignored.

```

for HTML output: 1 \PackageInfo{lwarf}{Using the lwarf version of package `axessibility'.}%
2 \ProvidesPackage{lwarf-axessibility}%
3
4 \newif\iftagpdfopt
5
6 \DeclareOption{accsupp}{
7   \tagpdfoptfalse
8 }
9
10 \DeclareOption{tagpdf} {
11   \tagpdfopttrue
12 }
13
14 \ProcessOptions\relax
15
16 \iftagpdfopt
17   \RequirePackage{tagpdf}
18 \else
19   \RequirePackage{accsupp}
20 \fi

21 \long\def\wrap#1{}
22 \long\def\wrapml#1{}
23 \long\def\wrapmlstar#1{}
24 \long\def\wrapmlalt#1{}


```

For MATHJAX. These usually will not be needed.

```

25 \begin{warpMathJax}
26 \CustomizeMathJax{\newcommand{\wrap}[1]{}}
27 \CustomizeMathJax{\newcommand{\wrapml}[1]{}}
28 \CustomizeMathJax{\newcommand{\wrapmlstar}[1]{}}
29 \CustomizeMathJax{\newcommand{\wrapmlalt}[1]{}}
30 \end{warpMathJax}


```

File 38 **lwarf-axodraw2.sty**

§ 138 Package **axodraw2**

(Emulates or patches code by JOHN C. COLLINS, J.A.M. VERMASEREN.)

Pkg axodraw2 **axodraw2** is patched for use by **lwarf**.

for HTML output: 1 \LWR@ProvidesPackagePass{axodraw2}[2018/02/15]

```

2 \BeforeBeginEnvironment{axopicture}{%
3   \begin{lateximage}[-axopicture-\~\PackageDiagramAltText]%
4 }
5
6 \AfterEndEnvironment{axopicture}{\end{lateximage}%

```

File 39 l warp-backnaur.sty**§ 139 Package backnaur**

(Emulates or patches code by ADRIAN P. ROBSON.)

Pkg backnaur backnaur is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{backnaur}[2019/06/18]

2 \renewenvironment{bnf}{\eqnarray}{\endeqnarray}
3 \renewenvironment{bnf*}{\csuse{eqnarray*}}{\csuse{endeqnarray*}}

File 40 l warp-backref.sty**§ 140 Package backref**

(Emulates or patches code by DAVID CARLISLE AND SEBASTIAN RAHTZ.)

Pkg backref backref is patched for use by l warp.

⚠ loading Note that backref must be explicitly loaded, and is not automatically loaded by hyperref when generating HTML output.

for HTML output: 1 \LWR@ProvidesPackagePass{backref}[2016/05/21]

Force the hyperref option:

2 \def\backref{} \let\backrefxxx\hyper@section@backref

File 41 l warp-balance.sty**§ 141 Package balance**

(Emulates or patches code by PATRICK W. DALY.)

Pkg balance balance is ignored.

for HTML output: Discard all options for l warp-balance:

1 \LWR@ProvidesPackageDrop{balance}[1999/02/23]

2 \newcommand*\{balance}{}
3 \newcommand*\{nobalance}{}

File 42 l warp-bbd ing.sty

§ 142 Package **bbding**

(Emulates or patches code by KAREL HORAK, PETER MØLLER NEERGAARD.)

Pkg bbd ing bbd ing is patched for use by l warp.

for HTML output:

```
1 \LWR@ProvidesPackagePass{bbding}[1999/04/15]

2 \newcommand*{\LWR@bbdingsymbol}[2]{\HTMLunicode{#2}}
3
4 \newcommand{\LWR@HTML@ScissorRightBrokenBottom}{\LWR@bbdingsymbol{000}} {2701}}
5 \newcommand{\LWR@HTML@ScissorRight}{\LWR@bbdingsymbol{001}} {2702}}
6 \newcommand{\LWR@HTML@ScissorRightBrokenTop}{\LWR@bbdingsymbol{002}} {2703}}
7 \newcommand{\LWR@HTML@ScissorLeftBrokenBottom}{\LWR@bbdingsymbol{003}} {2701}}
8 \newcommand{\LWR@HTML@ScissorLeft}{\LWR@bbdingsymbol{004}} {2702}}
9 \newcommand{\LWR@HTML@ScissorLeftBrokenTop}{\LWR@bbdingsymbol{005}} {2703}}
10 \newcommand{\LWR@HTML@ScissorHollowRight}{\LWR@bbdingsymbol{006}} {2704}}
11 \newcommand{\LWR@HTML@ScissorHollowLeft}{\LWR@bbdingsymbol{007}} {2704}}
12 \newcommand{\LWR@HTML@Phone}{\LWR@bbdingsymbol{010}} {260E}}
13 \newcommand{\LWR@HTML@PhoneHandset}{\LWR@bbdingsymbol{011}} {2706}}
14 \newcommand{\LWR@HTML@Tape}{\LWR@bbdingsymbol{012}} {2707}}
15 \newcommand{\LWR@HTML@Plane}{\LWR@bbdingsymbol{013}} {2708}}
16 \newcommand{\LWR@HTML@Envelope}{\LWR@bbdingsymbol{014}} {2709}}
17 \newcommand{\LWR@HTML@HandCuffRight}{\LWR@bbdingsymbol{015}} {261B}}
18 \newcommand{\LWR@HTML@HandCuffLeft}{\LWR@bbdingsymbol{016}} {261A}}
19 \newcommand{\LWR@HTML@HandCuffRightUp}{\LWR@bbdingsymbol{017}} {261D}}
20 \newcommand{\LWR@HTML@HandCuffLeftUp}{\LWR@bbdingsymbol{020}} {261F}}
21 \newcommand{\LWR@HTML@HandRight}{\LWR@bbdingsymbol{021}} {261E}}
22 \newcommand{\LWR@HTML@HandLeft}{\LWR@bbdingsymbol{022}} {261C}}
23 \newcommand{\LWR@HTML@HandRightUp}{\LWR@bbdingsymbol{023}} {261D}}
24 \newcommand{\LWR@HTML@HandLeftUp}{\LWR@bbdingsymbol{024}} {261F}}
25 \newcommand{\LWR@HTML@Peace}{\LWR@bbdingsymbol{025}} {270C}}
26 \newcommand{\LWR@HTML@HandPencilLeft}{\LWR@bbdingsymbol{026}} {270D}}
27 \newcommand{\LWR@HTML@PencilRight}{\LWR@bbdingsymbol{027}} {270F}}
28 \newcommand{\LWR@HTML@PencilLeft}{\LWR@bbdingsymbol{030}} {270F}}
29 \newcommand{\LWR@HTML@PencilRightUp}{\LWR@bbdingsymbol{031}} {2710}}
30 \newcommand{\LWR@HTML@PencilLeftUp}{\LWR@bbdingsymbol{032}} {2710}}
31 \newcommand{\LWR@HTML@PencilRightDown}{\LWR@bbdingsymbol{033}} {270E}}
32 \newcommand{\LWR@HTML@PencilLeftDown}{\LWR@bbdingsymbol{034}} {270E}}
33 \newcommand{\LWR@HTML@NibRight}{\LWR@bbdingsymbol{035}} {2711}}
34 \newcommand{\LWR@HTML@NibLeft}{\LWR@bbdingsymbol{036}} {2711}}
35 \newcommand{\LWR@HTML@NibSolidRight}{\LWR@bbdingsymbol{037}} {2712}}
36 \newcommand{\LWR@HTML@NibSolidLeft}{\LWR@bbdingsymbol{040}} {2712}}
37 \newcommand{\LWR@HTML@Checkmark}{\LWR@bbdingsymbol{041}} {2713}}
38 \newcommand{\LWR@HTML@CheckmarkBold}{\LWR@bbdingsymbol{042}} {2714}}
39 \newcommand{\LWR@HTML@XSolid}{\LWR@bbdingsymbol{043}} {2715}}
40 \newcommand{\LWR@HTML@XSolidBold}{\LWR@bbdingsymbol{044}} {2716}}
41 \newcommand{\LWR@HTML@XSolidBrush}{\LWR@bbdingsymbol{045}} {2717}}
42 \newcommand{\LWR@HTML@PlusOutline}{\LWR@bbdingsymbol{046}} {2719}}
```

```
43 \newcommand{\LWR@HTML@Plus}{\LWR@bdingssymbol{047}} {271A}}
44 \newcommand{\LWR@HTML@PlusCenterOpen}{\LWR@bdingssymbol{050}} {271C}}
45 \newcommand{\LWR@HTML@PlusThinCenterOpen}{\LWR@bdingssymbol{051}} {271B}}
46 \newcommand{\LWR@HTML@Cross}{\LWR@bdingssymbol{052}} {271D}}
47 \newcommand{\LWR@HTML@CrossOpenShadow}{\LWR@bdingssymbol{053}} {271E}}
48 \newcommand{\LWR@HTML@CrossOutline}{\LWR@bdingssymbol{054}} {271F}}
49 \newcommand{\LWR@HTML@CrossBoldOutline}{\LWR@bdingssymbol{055}} {271F}}
50 \newcommand{\LWR@HTML@CrossMaltese}{\LWR@bdingssymbol{056}} {2720}}
51 \newcommand{\LWR@HTML@DavidStarSolid}{\LWR@bdingssymbol{057}} {2721}}
52 \newcommand{\LWR@HTML@DavidStar}{\LWR@bdingssymbol{060}} {2721}}
53 \newcommand{\LWR@HTML@FourAsterisk}{\LWR@bdingssymbol{061}} {2722}}
54 \newcommand{\LWR@HTML@JackStar}{\LWR@bdingssymbol{062}} {2723}}
55 \newcommand{\LWR@HTML@JackStarBold}{\LWR@bdingssymbol{063}} {2724}}
56 \newcommand{\LWR@HTML@CrossClowerTips}{\LWR@bdingssymbol{064}} {2725}}
57 \newcommand{\LWR@HTML@FourStar}{\LWR@bdingssymbol{065}} {2726}}
58 \newcommand{\LWR@HTML@FourStarOpen}{\LWR@bdingssymbol{066}} {2727}}
59 \newcommand{\LWR@HTML@FiveStarLines}{\LWR@bdingssymbol{067}} {2729}}
60 \newcommand{\LWR@HTML@FiveStar}{\LWR@bdingssymbol{070}} {2605}}
61 \newcommand{\LWR@HTML@FiveStarOpen}{\LWR@bdingssymbol{071}} {2729}}
62 \newcommand{\LWR@HTML@FiveStarOpenCircled}{\LWR@bdingssymbol{072}} {272A}}
63 \newcommand{\LWR@HTML@FiveStarCenterOpen}{\LWR@bdingssymbol{073}} {272B}}
64 \newcommand{\LWR@HTML@FiveStarOpenDotted}{\LWR@bdingssymbol{074}} {272C}}
65 \newcommand{\LWR@HTML@FiveStarOutline}{\LWR@bdingssymbol{075}} {272D}}
66 \newcommand{\LWR@HTML@FiveStarOutlineHeavy}{\LWR@bdingssymbol{076}} {272E}}
67 \newcommand{\LWR@HTML@FiveStarConvex}{\LWR@bdingssymbol{077}} {272F}}
68 \newcommand{\LWR@HTML@FiveStarShadow}{\LWR@bdingssymbol{100}} {2730}}
69 \newcommand{\LWR@HTML@AsteriskBold}{\LWR@bdingssymbol{101}} {2731}}
70 \newcommand{\LWR@HTML@AsteriskCenterOpen}{\LWR@bdingssymbol{102}} {2732}}
71 \newcommand{\LWR@HTML@AsteriskThin}{\LWR@bdingssymbol{103}} {273B}}
72 \newcommand{\LWR@HTML@AsteriskThinCenterOpen}{\LWR@bdingssymbol{104}} {273C}}
73 \newcommand{\LWR@HTML@EightStarTaper}{\LWR@bdingssymbol{105}} {2733}}
74 \newcommand{\LWR@HTML@EightStarConvex}{\LWR@bdingssymbol{106}} {2735}}
75 \newcommand{\LWR@HTML@SixStar}{\LWR@bdingssymbol{107}} {2736}}
76 \newcommand{\LWR@HTML@EightStar}{\LWR@bdingssymbol{110}} {2737}}
77 \newcommand{\LWR@HTML@EightStarBold}{\LWR@bdingssymbol{111}} {2738}}
78 \newcommand{\LWR@HTML@TwelweStar}{\LWR@bdingssymbol{112}} {2739}}
79 \newcommand{\LWR@HTML@SixteenStarLight}{\LWR@bdingssymbol{113}} {273A}}
80 \newcommand{\LWR@HTML@SixFlowerPetalRemoved}{\LWR@bdingssymbol{114}} {273B}}
81 \newcommand{\LWR@HTML@SixFlowerOpenCenter}{\LWR@bdingssymbol{115}} {273C}}
82 \newcommand{\LWR@HTML@Asterisk}{\LWR@bdingssymbol{116}} {273D}}
83 \newcommand{\LWR@HTML@SixFlowerAlternate}{\LWR@bdingssymbol{117}} {273E}}
84 \newcommand{\LWR@HTML@FiveFlowerPetal}{\LWR@bdingssymbol{120}} {273F}}
85 \newcommand{\LWR@HTML@SixFlowerPetalDotted}{\LWR@bdingssymbol{121}} {2740}}
86 \newcommand{\LWR@HTML@FiveFlowerOpen}{\LWR@bdingssymbol{122}} {2740}}
87 \newcommand{\LWR@HTML@EightFlowerPetal}{\LWR@bdingssymbol{123}} {2741}}
88 \newcommand{\LWR@HTML@SunshineOpenCircled}{\LWR@bdingssymbol{124}} {2742}}
89 \newcommand{\LWR@HTML@SixFlowerAltPetal}{\LWR@bdingssymbol{125}} {2743}}
90 \newcommand{\LWR@HTML@FourClowerOpen}{\LWR@bdingssymbol{126}} {273F}}
91 \newcommand{\LWR@HTML@FourClowerSolid}{\LWR@bdingssymbol{127}} {273F}}
92 \newcommand{\LWR@HTML@AsteriskRoundedEnds}{\LWR@bdingssymbol{130}} {2749}}
93 \newcommand{\LWR@HTML@EightFlowerPetalRemoved}{\LWR@bdingssymbol{131}} {274A}}
94 \newcommand{\LWR@HTML@EightAsterisk}{\LWR@bdingssymbol{132}} {274B}}
95 \newcommand{\LWR@HTML@SixFlowerRemovedOpenPetal}{\LWR@bdingssymbol{133}} {2740}}
96 \newcommand{\LWR@HTML@SparkleBold}{\LWR@bdingssymbol{134}} {2748}}
97 \newcommand{\LWR@HTML@Sparkle}{\LWR@bdingssymbol{135}} {2747}}
```

```
98 \newcommand{\LWR@HTML@SnowflakeChevron}{\LWR@bbdingsymbol{136}} {2744}}
99 \newcommand{\LWR@HTML@SnowflakeChevronBold}{\LWR@bbdingsymbol{137}} {2746}}
100 \newcommand{\LWR@HTML@Snowflake}{\LWR@bbdingsymbol{140}} {2744}}
101 \newcommand{\LWR@HTML@CircleSolid}{\LWR@bbdingsymbol{141}} {25CF}}
102 \newcommand{\LWR@HTML@Ellipse}{\LWR@bbdingsymbol{142}} {274D}}
103 \newcommand{\LWR@HTML@EllipseSolid}{\LWR@bbdingsymbol{143}} {25CF}}
104 \newcommand{\LWR@HTML@CircleShadow}{\LWR@bbdingsymbol{144}} {274D}}
105 \newcommand{\LWR@HTML@EllipseShadow}{\LWR@bbdingsymbol{145}} {274D}}
106 \newcommand{\LWR@HTML@Square}{\LWR@bbdingsymbol{146}} {25A1}}
107 \newcommand{\LWR@HTML@SquareSolid}{\LWR@bbdingsymbol{147}} {25A0}}
108 \newcommand{\LWR@HTML@SquareShadowBottomRight}{\LWR@bbdingsymbol{150}} {2751}}
109 \newcommand{\LWR@HTML@SquareShadowTopRight}{\LWR@bbdingsymbol{151}} {2752}}
110 \newcommand{\LWR@HTML@SquareShadowTopLeft}{\LWR@bbdingsymbol{152}} {2752}}
111 \newcommand{\LWR@HTML@SquareCastShadowBottomRight}{\LWR@bbdingsymbol{153}} {2751}}
112 \newcommand{\LWR@HTML@SquareCastShadowTopRight}{\LWR@bbdingsymbol{154}} {2752}}
113 \newcommand{\LWR@HTML@SquareCastShadowTopLeft}{\LWR@bbdingsymbol{155}} {2752}}
114 \newcommand{\LWR@HTML@TriangleUp}{\LWR@bbdingsymbol{156}} {25B2}}
115 \newcommand{\LWR@HTML@TriangleDown}{\LWR@bbdingsymbol{157}} {25BC}}
116 \newcommand{\LWR@HTML@DiamondSolid}{\LWR@bbdingsymbol{160}} {25C6}}
117 \newcommand{\LWR@HTML@OrnamentDiamondSolid}{\LWR@bbdingsymbol{161}} {2756}}
118 \newcommand{\LWR@HTML@HalfCircleRight}{\LWR@bbdingsymbol{162}} {25D7}}
119 \newcommand{\LWR@HTML@HalfCircleLeft}{\LWR@bbdingsymbol{163}} {25D6}}
120 \newcommand{\LWR@HTML@RectangleThin}{\LWR@bbdingsymbol{164}} {2758}}
121 \newcommand{\LWR@HTML@Rectangle}{\LWR@bbdingsymbol{165}} {2759}}
122 \newcommand{\LWR@HTML@RectangleBold}{\LWR@bbdingsymbol{166}} {275A}}
123 \newcommand{\LWR@HTML@ArrowBoldRightStrobe}{\LWR@bbdingsymbol{167}} {27A0}}
124 \newcommand{\LWR@HTML@ArrowBoldUpRight}{\LWR@bbdingsymbol{170}} {27A6}}
125 \newcommand{\LWR@HTML@ArrowBoldDownRight}{\LWR@bbdingsymbol{171}} {27A5}}
126 \newcommand{\LWR@HTML@ArrowBoldRightShort}{\LWR@bbdingsymbol{172}} {27A7}}
127 \newcommand{\LWR@HTML@ArrowBoldRightCircled}{\LWR@bbdingsymbol{173}} {27B2}}
128
129
130 \LWR@formatted{ScissorRightBrokenBottom}
131 \LWR@formatted{ScissorRight}
132 \LWR@formatted{ScissorRightBrokenTop}
133 \LWR@formatted{ScissorLeftBrokenBottom}
134 \LWR@formatted{ScissorLeft}
135 \LWR@formatted{ScissorLeftBrokenTop}
136 \LWR@formatted{ScissorHollowRight}
137 \LWR@formatted{ScissorHollowLeft}
138 \LWR@formatted{Phone}
139 \LWR@formatted{PhoneHandset}
140 \LWR@formatted{Tape}
141 \LWR@formatted{Plane}
142 \LWR@formatted{Envelope}
143 \LWR@formatted{HandCuffRight}
144 \LWR@formatted{HandCuffLeft}
145 \LWR@formatted{HandCuffRightUp}
146 \LWR@formatted{HandCuffLeftUp}
147 \LWR@formatted{HandRight}
148 \LWR@formatted{HandLeft}
149 \LWR@formatted{HandRightUp}
150 \LWR@formatted{HandLeftUp}
151 \LWR@formatted{Peace}
152 \LWR@formatted{HandPencilLeft}
```

```
153 \LWR@formatted{PencilRight}
154 \LWR@formatted{PencilLeft}
155 \LWR@formatted{PencilRightUp}
156 \LWR@formatted{PencilLeftUp}
157 \LWR@formatted{PencilRightDown}
158 \LWR@formatted{PencilLeftDown}
159 \LWR@formatted{NibRight}
160 \LWR@formatted{NibLeft}
161 \LWR@formatted{NibSolidRight}
162 \LWR@formatted{NibSolidLeft}
163 \LWR@formatted{Checkmark}
164 \LWR@formatted{CheckmarkBold}
165 \LWR@formatted{XSolid}
166 \LWR@formatted{XSolidBold}
167 \LWR@formatted{XSolidBrush}
168 \LWR@formatted{PlusOutline}
169 \LWR@formatted{Plus}
170 \LWR@formatted{PlusCenterOpen}
171 \LWR@formatted{PlusThinCenterOpen}
172 \LWR@formatted{Cross}
173 \LWR@formatted{CrossOpenShadow}
174 \LWR@formatted{CrossOutline}
175 \LWR@formatted{CrossBoldOutline}
176 \LWR@formatted{CrossMaltese}
177 \LWR@formatted{DavidStarSolid}
178 \LWR@formatted{DavidStar}
179 \LWR@formatted{FourAsterisk}
180 \LWR@formatted{JackStar}
181 \LWR@formatted{JackStarBold}
182 \LWR@formatted{CrossClowerTips}
183 \LWR@formatted{FourStar}
184 \LWR@formatted{FourStarOpen}
185 \LWR@formatted{FiveStarLines}
186 \LWR@formatted{FiveStar}
187 \LWR@formatted{FiveStarOpen}
188 \LWR@formatted{FiveStarOpenCircled}
189 \LWR@formatted{FiveStarCenterOpen}
190 \LWR@formatted{FiveStarOpenDotted}
191 \LWR@formatted{FiveStarOutline}
192 \LWR@formatted{FiveStarOutlineHeavy}
193 \LWR@formatted{FiveStarConvex}
194 \LWR@formatted{FiveStarShadow}
195 \LWR@formatted{AsteriskBold}
196 \LWR@formatted{AsteriskCenterOpen}
197 \LWR@formatted{AsteriskThin}
198 \LWR@formatted{AsteriskThinCenterOpen}
199 \LWR@formatted{EightStarTaper}
200 \LWR@formatted{EightStarConvex}
201 \LWR@formatted{SixStar}
202 \LWR@formatted{EightStar}
203 \LWR@formatted{EightStarBold}
204 \LWR@formatted{TwelweStar}
205 \LWR@formatted{SixteenStarLight}
206 \LWR@formatted{SixFlowerPetalRemoved}
207 \LWR@formatted{SixFlowerOpenCenter}
```

```
208 \LWR@formatted{Asterisk}
209 \LWR@formatted{SixFlowerAlternate}
210 \LWR@formatted{FiveFlowerPetal}
211 \LWR@formatted{SixFlowerPetalDotted}
212 \LWR@formatted{FiveFlowerOpen}
213 \LWR@formatted{EightFlowerPetal}
214 \LWR@formatted{SunshineOpenCircled}
215 \LWR@formatted{SixFlowerAltPetal}
216 \LWR@formatted{FourFlowerOpen}
217 \LWR@formatted{FourFlowerSolid}
218 \LWR@formatted{AsteriskRoundedEnds}
219 \LWR@formatted{EightFlowerPetalRemoved}
220 \LWR@formatted{EightAsterisk}
221 \LWR@formatted{SixFlowerRemovedOpenPetal}
222 \LWR@formatted{SparkleBold}
223 \LWR@formatted{Sparkle}
224 \LWR@formatted{SnowflakeChevron}
225 \LWR@formatted{SnowflakeChevronBold}
226 \LWR@formatted{Snowflake}
227 \LWR@formatted{CircleSolid}
228 \LWR@formatted{Ellipse}
229 \LWR@formatted{EllipseSolid}
230 \LWR@formatted{CircleShadow}
231 \LWR@formatted{EllipseShadow}
232 \LWR@formatted{Square}
233 \LWR@formatted{SquareSolid}
234 \LWR@formatted{SquareShadowBottomRight}
235 \LWR@formatted{SquareShadowTopRight}
236 \LWR@formatted{SquareShadowTopLeft}
237 \LWR@formatted{SquareCastShadowBottomRight}
238 \LWR@formatted{SquareCastShadowTopRight}
239 \LWR@formatted{SquareCastShadowTopLeft}
240 \LWR@formatted{TriangleUp}
241 \LWR@formatted{TriangleDown}
242 \LWR@formatted{DiamondSolid}
243 \LWR@formatted{OrnamentDiamondSolid}
244 \LWR@formatted{HalfCircleRight}
245 \LWR@formatted{HalfCircleLeft}
246 \LWR@formatted{RectangleThin}
247 \LWR@formatted{Rectangle}
248 \LWR@formatted{RectangleBold}
249 \LWR@formatted{ArrowBoldRightStrobe}
250 \LWR@formatted{ArrowBoldUpRight}
251 \LWR@formatted{ArrowBoldDownRight}
252 \LWR@formatted{ArrowBoldRightShort}
253 \LWR@formatted{ArrowBoldRightCircled}
```

File 43 lwarf-biblatex.sty

§ 143 Package **biblatex**

(Emulates or patches code by PHILIPP LEHMAN.)

Pkg biblatex When **biblatex** is used, modifications from **newfloat** may have to be undone.

for HTML output:

1. lwrap uses **newfloat**.
2. For classes with chapters which **newfloat** does not know about, such as CTEX-related classes, **newfloat** may modify `\addtocontents`.
3. **biblatex**, though, wants to patch `\addtocontents`, which causes an error if `\addtocontents` has been changed.
4. Therefore, `\addtocontents` is restored to its original here, since **biblatex** is about to be loaded.
5. This means that the **newfloat**'s `chapterlistsgaps` option may no longer work.

```

1 \ifdef{\newfloat@addtocontents@ORI}{
2   \let\addtocontents\newfloat@addtocontents@ORI
3 }{}

4 \LWR@ProvidesPackagePass{biblatex}[2018/03/04]
```

The following create hyperlinks to the references. The original code to use **hyperref** is recreated here, because **hyperref** is emulated.

```

5 \AfterPreamble{
6
7 \let\blx@anchors@\empty
8 \protected\def\blx@anchor{%
9   \xifinlist{\the\c@refsection}{\abx@field@entrykey}{\blx@anchors}
10  {}%
11  {\listxadd{\blx@anchors}{\the\c@refsection}{\abx@field@entrykey}{}%
12    \hypertarget{cite.\the\c@refsection}{\abx@field@entrykey}{}}
13 \protected\def\blx@imc@bibhyperref{%
14   \qifnextchar[%
15     {\blx@bibhyperref}
16     {\blx@bibhyperref[\abx@field@entrykey]}{}%
17
18 \long\def\blx@bibhyperref[#1]{%
19 %   \blx@sfsave
20 %   \hyperlink{cite.\the\c@refsection}{\blx@sfrst}
21 %   \blx@sfrst
22 %   \#2%
23 %   \blx@sfsave
24 %   }%
25 %   \blx@sfrst%
26 }% \def\blx@nohyperref[#1]{\#2}%
27
28 \protected\long\def\blx@imc@bibhyperlink#1{%
29 %   \blx@sfsave
30 %   \hyperlink{cite.\the\c@refsection:#1}{%
31 %     \blx@sfrst
32 %     \#2%
33 %     \blx@sfsave
34 %   }%
```

```
35 %          \blx@sfrrest%
36 }%
37
38 \protected\long\def\blx@imc@bibhypertarget#1#2{%
39 %          \blx@sfsave%
40          \hypertarget{cite.\the\c@refsection:#1}{%
41 %          \blx@sfrrest%
42          #2%
43 %          \blx@sfsave%
44 }%
45 %          \blx@sfrrest%
46 }
47
48 \let\blx@imc@ifhyperref\@firstoftwo
49 }
```

File 44 l warp-bibunits.sty**§ 144 Package bibunits**

(Emulates or patches code by THORSTEN HANSEN.)

Pkg bibunits bibunits is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{bibunits}[2004/05/12]

2 \def\bu@bibdata{\BaseJobname}

File 45 l warp-bigdelim.sty**§ 145 Package bigdelim**

(Emulates or patches code by PIET VAN OOSTRUM, ØYSTEIN BACHE, JERRY LEICHTER.)

Pkg bigdelim bigdelim is used as-is for print or lateximage, and patched for HTML.

The delimiters are displayed in HTML by printing the delimiter, the text, and a thick border across the side of the \multirow which indicates the actual height of the delimiter. The delimiter character is given a class of ldelim or rdelim, and the default css sets this to font-size:200%

⚠ use \mrowcell \ldelim and \rdelim use \multirow, so \mrowcell must be used in the proper number of empty cells in the same column below \ldelim or \rdelim, but not in cells which are above or below the delimiter:

```
\begin{tabular}{lll}
<empty> & a & b \\
\ldelim{\{}{3}{.25in}[left ] & c & d \\
\mrowcell{e & f} \\
\mrowcell{g & h} \\
<empty> & i & j \\
\end{tabular}
```

<->	a b
left {	c d
{	e f
}	g h
<->	i j

For MATHJAX, limited emulation is provided which merely prints the delimiter and optional text in the first row.

for HTML output: First, remove the temporary definitions of `\ldelim` and `\rdelim`, which were previously defined for tabular scanning in case `bigdelim` was not loaded:

```
1 \let\ldelim\relax
2 \let\rdelim\relax
```

Next, load the package's new definitions:

```
3 \LWR@ProvidesPackagePass{bigdelim}[2018/08/03]

\ldelim {\{1:delimiter\}}{\{2:#rows\}}{\{3:width\}}[\{4:text\}]
\rdelim
4 \NewDocumentCommand{\LWR@HTML@ldelim}{m m m O{}}{%
5 \renewcommand{\LWR@multirowborder}{right}%
6 \multirow{#2}{#3}{#4 \InlineClass{ldelim}{#1}}%
7 }%
8
9 \LWR@formatted{ldelim}
10
11 \NewDocumentCommand{\LWR@HTML@rdelim}{m m m O{}}{%
12 \renewcommand{\LWR@multirowborder}{left}%
13 \multirow{#2}{#3}{\InlineClass{rdelim}{#1} #4}%
14 }%
15
16 \LWR@formatted{rdelim}
```

Limited emulation for MATHJAX. The delimiter is printed on the first row, along with any optional text.

```
17 \begin{warpMathJax}
18 % \ldelim ( [n]{width}[text]
19 \CustomizeMathJax{\newcommand{\LWRldelim}{\text{\LWRbigdelim}}}
20 \CustomizeMathJax{\def\ldelim{\LWRldelim\#2\#3\def\LWRbigdelim{\LWRldelim}}}
21 % \rdelim ) [n]{width}[text]
```

```

22 \CustomizeMathJax{\newcommand{\LWRrdelim}[1][]{\LWRbigdelim\text{#1}}}
23 \CustomizeMathJax{\def\rdelim#1#2#3{\def\LWRbigdelim[#1]\LWRrdelim}}
24 \end{warpMathJax}
```

File 46 **l warp-bigfoot.sty**

§ 146 Package **bigfoot**

Pkg bigfoot bigfoot is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{bigfoot}[2015/08/30]

```

2 \RequirePackage{manyfoot}
3 \RequirePackage{perpage}
4
5 \def\RestyleFootnote#1#2{}
6 \def\FootnoteSpecific#1{}
7 \def\DefineFootnoteStack#1{}
8 \def\PushFootnoteMark#1{}
9 \def\PopFootnoteMark#1{}
10 \def\hfootfraction{0.9}
11 \def\vtypefraction{0.7}
12 \def\FootnoteMinimum{1sp}
13 \def\FootnoteMainMinimum{0pt}
14 \newcount\bigfoottolerance
15 \bigfoottolerance=100
16 \providecommand\footnotecarryratio{2}
```

File 47 **l warp-bigstrut.sty**

§ 147 Package **bigstrut**

(Emulates or patches code by PIET VAN OOSTRUM, ØYSTEIN BACHE, JERRY LEICHTER.)

Pkg bigstrut bigstrut is used as-is for print or `\textrimage`, and patched for `HTML`.

for HTML output: 1 \LWR@ProvidesPackagePass{bigstrut}[2018/08/03]

```

2 \LetLtxMacro\LWR@origbigstrut\bigstrut
3
4 \renewcommand\bigstrut[1][x]{}%
5
6 \appto\LWR@restoreorigformatting{%
7 \LetLtxMacro\bigstrut\LWR@origbigstrut%
8 }
9

10 \begin{warpMathJax}
11 \CustomizeMathJax{\newcommand{\bigstrut}[1][]{}}
12 \end{warpMathJax}
```

File 48 l warp-bitpattern.sty**§ 148 Package bitpattern**

(Emulates or patches code by JEAN-MARC BOURGUET.)

Pkg bitpattern bitpattern is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{bitpattern}[2015/12/11]

```
2 \xpatchcmd{\bitpattern}
3   {\begingroup}
4   {\begin{ lateximage }[-bitpattern-\~\PackageDiagramAltText]}
5   {}
6   {\LWR@patcherror{bitpattern}{bitpattern}}
7
8 \xpatchcmd{\bp@Done}
9   {\endgroup}
10  {\end{ lateximage }}
11  {}
12  {\LWR@patcherror{bitpattern}{bp@Done}}
```

File 49 l warp-blowup.sty**§ 149 Package blowup**

Pkg blowup blowup is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{blowup}[2018/01/02]

```
2 \newcommand*\blowUp[1]{}
```

File 50 l warp-bm.sty**§ 150 Package bm**

(Emulates or patches code by DAVID CARLISLE, FRANK MITTELBACH.)

Pkg bm bm is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{bm}[2019/07/24]

\DeclareBoldMathCommand must only be used in the preamble, since it adds to the MATHJAX setup code.

```

2 \begin{warpMathJax}
3 \LetLtxMacro{\LWR@orig}{\DeclareBoldMathCommand{\DeclareBoldMathCommand}}
4
5 \renewcommand{\DeclareBoldMathCommand}[3][bold]{%
6   \LWR@orig{\DeclareBoldMathCommand[#1]{#2}{#3}}%
7   \CustomizeMathJax{\newcommand{\bm}[1]{\boldsymbol{#1}}}%
8 }
9
10 \onlypreamble{\DeclareBoldMathCommand}
11
12 \CustomizeMathJax{\newcommand{\bm}[1]{\boldsymbol{#1}}}
13 \end{warpMathJax}

```

File 51 **lwarf-booklet.sty**

§ 151 Package **booklet**

(Emulates or patches code by PETER WILSON.)

Pkg **booklet** **booklet** is ignored.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{booklet}[2009/09/02]

2 \newdimen\pageseplength
3 \newdimen\pagesepwidth
4 \newdimen\pagesepoffset
5 \newif\ifsidebyside    \sidebysidetrue
6 \newif\ifuslandscape   \uselandscapefalse
7 \newif\ifprintoption   \printoptionfalse
8 \newcommand*\pagespersignature[1]{}%
9 \def\magstepminus#1{}
10 \newcommand*\target[3]{}%
11 \newcommand*\source[3]{}%
12 \newcommand*\setpdftargetpages{}%
13 \newcommand*\setdvipstargetpages{}%
14 \newcommand*\targettopbottom{}%
15 \newcommand*\twoupemptypage{}%
16 \newcommand*\twoupclearpage{}%
17 \newcommand*\checkforlandscape{}%

```

File 52 **lwarf-bookmark.sty**

§ 152 Package **bookmark**

(Emulates or patches code by HEIKO OBERDIEK.)

Pkg **bookmark** **bookmark** is ignored.

for HTML output: Discard all options for **lwarf-bookmark**:

```
1 \LWR@ProvidesPackageDrop{bookmark}[2016/05/17]
```

```

2 \newcommand*{\bookmarksetup}[1]{}
3 \newcommand*{\bookmarksetupnext}[1]{}
4 \newcommand*{\bookmark}[2][]{}
5 \newcommand*{\bookmarkdefinestyle}[2]{}
6 \newcommand*{\bookmarkget}[1]{}
7 \newcommand{\BookmarkAtEnd}[1]{}

```

File 53 **l warp-booktabs.sty**

§ 153 Package **booktabs**

(Emulates or patches code by SIMON FEAR.)

Pkg booktabs booktabs is emulated during HTML output, and used as-is during print output and inside an HTML `\image`.

⚠ `\cmidrule` For MATHJAX, emulation is provided in math mode, but `\cmidrule` trim must not be used.

for HTML output: If booktabs has already been loaded before l warp, such as by memoir, use it as-is. If not, the l warp core will have placed some dummy macros which should be removed before loading the actual booktabs definitions.

```

1 \@ifpackageloaded{booktabs}{}{
2   \LetLtxMacro\toprule\relax
3   \LetLtxMacro\midrule\relax
4   \LetLtxMacro\cmidrule\cline
5   \LetLtxMacro\bottomrule\relax
6   \LetLtxMacro\addlinespace\relax
7   \LetLtxMacro\morecmidrules\relax
8   \LetLtxMacro\specialrule\relax
9 }

```

Next, load the booktabs package:

```
10 \LWR@ProvidesPackagePass{booktabs}[2019/10/08]
```

Adjust to work even if xltabular is loaded:

```

11 % \def\LWR@HTML@@BLTrule{\@BTnormal}
12 %
13 % \LWR@formatted{@BLTrule}
14 \LetLtxMacro\@BLTrule\@BTnormal

15 \DeclareDocumentCommand{\LWR@HTML@toprule}{o d()}{%
16   {%
17     \IfValueTF{#1}{%
18       {\LWR@docmidrule[#1](){1-\arabic{LWR@tabletotalLaTeXcols}}}%
19     {%
20       \ifbool{FormatWP}{%
21         {\LWR@docmidrule[#1](){1-\arabic{LWR@tabletotalLaTeXcols}}}%
22       {\booltrue{LWR@doingtbrule}}%

```

```

23          }%
24      \LWR@getmynexttoken}
25
26 \LWR@expandableformatted{toprule}
27
28 \DeclareDocumentCommand{\LWR@HTML@midrule}{o d()}{%
29     {%
30         \IfValueTF{#1}{%
31             {\LWR@docmidrule[#1](){1-\arabic{LWR@tabletotalLaTeXcols}}}{%
32             {%
33                 \ifbool{FormatWP}{%
34                     {\LWR@docmidrule[#1](){1-\arabic{LWR@tabletotalLaTeXcols}}}{%
35                     {\defaddtocounter{LWR@hlines}{1}}}{%
36                     }%
37             \LWR@getmynexttoken}
38
39 \LWR@expandableformatted{midrule}
40
41 \DeclareDocumentCommand{\LWR@HTML@cmidrule}{O{\LWR@cmidrulewidth} d() m}{%
42     \LWR@docmidrule[#1](#2){#3}%
43     \LWR@getmynexttoken%
44 }%
45
46 \LWR@expandableformatted{cmidrule}
47
48 \DeclareDocumentCommand{\LWR@HTML@bottomrule}{o d()}{%
49     \IfValueTF{#1}{%
50         {\LWR@docmidrule[#1](){1-\arabic{LWR@tabletotalLaTeXcols}}}{%
51         {%
52             \ifbool{FormatWP}{%
53                 {\LWR@docmidrule[#1](){1-\arabic{LWR@tabletotalLaTeXcols}}}{%
54                 {\booltrue{LWR@doingtbrule}}}{%
55                 }%
56             \LWR@getmynexttoken%
57 }%
58
59 \LWR@expandableformatted{bottomrule}
60
61 \DeclareDocumentCommand{\LWR@HTML@addlinespace}{o}{%
62
63 \LWR@expandableformatted{addlinespace}
64
65 \DeclareDocumentCommand{\LWR@HTML@morecmidrules}{ }{%
66
67 \LWR@expandableformatted{morecmidrules}
68
69 \DeclareDocumentCommand{\LWR@HTML@specialrule}{m m m d()}{%
70     {\LWR@docmidrule[#1](){1-\arabic{LWR@tabletotalLaTeXcols}}\LWR@getmynexttoken}%
71
72 \LWR@expandableformatted{specialrule}

```

For MATHJAX:

```

73 \begin{warpMathJax}
74 \CustomizeMathJax{\newcommand{\toprule}{[]}{\hline}}

```

```

75 \CustomizeMathJax{\let\midrule\toprule}
76 \CustomizeMathJax{\let\bottomrule\toprule}
77 \CustomizeMathJax{\newcommand{\cmidrule}[2][]{\hphantom{|}\hline}}
78 \CustomizeMathJax{\newcommand{\morecmidrules}{}}
79 \CustomizeMathJax{\newcommand{\specialrule}[3]{\hline}}
80 \CustomizeMathJax{\newcommand{\addlinespace}[1][]{\hphantom{|}\hline}}
81 \end{warpMathJax}
```

File 54 **l warp-bophook.sty**

§ 154 Package **bophook**

Pkg bophook bophook is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{bophook}[2001/03/29]

```

2 \newcommand*{\AtBeginPage}[1]{}
3 \newcommand*{\PageLayout}[1]{}
```

File 55 **l warp-bounddvi.sty**

§ 155 Package **bounddvi**

Pkg bounddvi bounddvi is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{bounddvi}[2016/12/28]

File 56 **l warp-boxedminipage2e.sty**

§ 156 Package **boxedminipage2e**

(Emulates or patches code by SCOTT PAKIN.)

Pkg boxedminipage2e boxedminipage2e is emulated for HTML, and used as-is for lateximages.

for HTML output: Discard all options for l warp-boxedminipage2e:

```
1 \LWR@ProvidesPackagePass{boxedminipage2e}[2015/03/09]
```

```

2 \newenvironment{\LWR@HTML@boxedminipage}{%
3   \LWR@stoppars%
4   \begin{BlockClass}{framebox}%
5   \minipage%
6 }%
7 {%
8   \endminipage%
9   \end{BlockClass}%
}
```

```
10      \LWR@startpars%
11 }
12 \LWR@formattedeenv{boxedminipage}
```

File 57 **l warp-braket.sty**

§ 157 Package **braket**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg **braket** **braket** works as-is for HTML with SVG math. For MATHJAX, emulation is provided by MATHJAX macros.

for HTML output: 1 \LWR@ProvidesPackagePass{braket}% No date is provided by the file.

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\bra}[1]{\langle#1\vert}}
4 \CustomizeMathJax{\newcommand{\Bra}[1]{\left\langle\left.#1\right\rvert}}
5 \CustomizeMathJax{\newcommand{\ket}[1]{\left.\left\langle\right.#1\right\rangle}}
6 \CustomizeMathJax{\newcommand{\Ket}[1]{\left\langle\left.#1\right.\right\rangle}}
7 \CustomizeMathJax{\newcommand{\braket}[1]{\langle#1\rangle}}
8 \CustomizeMathJax{\newcommand{\Braket}[1]{\left\langle\left.#1\right.\right\rangle}}
9 \CustomizeMathJax{\newcommand{\set}[1]{\{\#1\}}}
10 \CustomizeMathJax{\newcommand{\Set}[1]{\left\{\left.#1\right.\right\}}}
11 \end{warpMathJax}
```

File 58 **l warp-breakurl.sty**

§ 158 Package **breakurl**

(Emulates or patches code by VILAR CAMARA NETO.)

Pkg **breakurl** **breakurl** is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{breakurl}[2013/04/10]

```
2 \LetLtxMacro\burl\url
3
4 \NewDocumentCommand{\LWR@burlaltn}{O{} +m m}{%
5   \LWR@ensuredoingapar%
6   \LWR@subhyperref{#2}%
7   \LWR@subhyperreftext{#3}%
8   \endgroup% restore catcodes
9 }
10
11 \newrobustcmd*\burlaltn{%
12   \begingroup%
13   \LWR@linkcatcodes%
14   \LWR@burlaltn%
15 }
```

```
16  
17 \LetLtxMacro\urlalt\burlalt
```

File 59 **l warp-breqn.sty**

§ 159 Package **breqn**

(Emulates or patches code by MICHAEL J. DOWNES, MORTEN HØGHLØM.)

Pkg breqn breqn is patched for use by l warp.

⚠ darray darray is not supported, and in fact does not work in the print version either.

While using MATHJAX, breqn objects are converted to svg images.

for HTML output:

```
1 \LWR@ProvidesPackagePass{breqn}[2017/01/27]  
  
2 \setkeys{breqn}{spread={5pt}}  
3  
4 \def\eqnumside{R}  
5 % \def\eqnumplace{T}  
6  
7 \BeforeBeginEnvironment{dmath}{  
8   \begin{BlockClass}{displaymathnumbered}  
9   \LWR@newautoidanchor%  
10  \booltrue{\LWR@indisplaymathimage}%  
11  \begin{lateximage}[-breqn dmath- \MathImageAltText]  
12 }  
13  
14 \AfterEndEnvironment{dmath}{  
15   \end{lateximage}\end{BlockClass}  
16 }  
17  
18 \BeforeBeginEnvironment{dmath*}{  
19   \begin{BlockClass}{displaymath}  
20   \LWR@newautoidanchor%  
21   \booltrue{\LWR@indisplaymathimage}%  
22   \begin{lateximage}[-breqn dmath*- \MathImageAltText]  
23 }  
24  
25 \AfterEndEnvironment{dmath*}{  
26   \end{lateximage}\end{BlockClass}  
27 }  
28  
29 \BeforeBeginEnvironment{dseries}{  
30   \begin{BlockClass}{displaymathnumbered}  
31   \LWR@newautoidanchor%  
32   \booltrue{\LWR@indisplaymathimage}%  
33   \begin{lateximage}[-breqn dseries- \MathImageAltText]  
34 }  
35  
36 \AfterEndEnvironment{dseries}{  
37   \end{lateximage}\end{BlockClass}
```

```
38 }
39
40 \BeforeBeginEnvironment{dseries*}{

41     \begin{BlockClass}{displaymath}
42     \LWR@newautoidanchor%
43     \booltrue{\LWR@indisplaymathimage}%
44     \begin{lateximage}[-breqn dseries*- \MathImageAltText]
45 }
46
47 \AfterEndEnvironment{dseries*}{

48     \end{lateximage}\end{BlockClass}
49 }
50
51 \BeforeBeginEnvironment{dgroup}{

52     \begin{BlockClass}{displaymath}
53     \LWR@newautoidanchor%
54     \booltrue{\LWR@indisplaymathimage}%
55     \begin{lateximage}[-breqn dgroup- \MathImageAltText]
56 }
57
58 \AfterEndEnvironment{dgroup}{

59     \end{lateximage}\end{BlockClass}
60 }
61
62 \BeforeBeginEnvironment{dgroup*}{

63     \begin{BlockClass}{displaymath}
64     \LWR@newautoidanchor%
65     \booltrue{\LWR@indisplaymathimage}%
66     \begin{lateximage}[-breqn dgroup*- \MathImageAltText]
67 }
68
69 \AfterEndEnvironment{dgroup*}{

70     \end{lateximage}\end{BlockClass}
71 }
```

File 60 l warp-bsheaders.sty**§ 160 Package bsheaders**

Pkg bsheaders bsheaders is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{bsheaders}[1997/10/06]

File 61 l warp-bxpapersize.sty**§ 161 Package bxpapersize**

Pkg bxpapersize bxpapersize is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{bxpapersize}[2017/10/08]

```

2 \providecommand*\papersizesetup{\bxpapersizesetup}
3 \newcommand*\bxpapersizesetup[1]{}

```

File 62 **l warp-bytefield.sty**

§ 162 Package **bytefield**

(Emulates or patches code by SCOTT PAKIN.)

Pkg bytefield bytefield is patched for use by l warp.

for HTML output 1 \LWR@ProvidesPackagePass{bytefield}[2017/09/15]

```

2 \BeforeBeginEnvironment{bytefield}{%
3   \begin{latentimage}[-bytefield-\~\PackageDiagramAltText]%
4 }
5
6 \AfterEndEnvironment{bytefield}{\end{latentimage}}

```

File 63 **l warp-cancel.sty**

§ 163 Package **cancel**

Pkg cancel cancel is used as-is for SVG math, and emulated for HTML text output.

for HTML output 1 \LWR@origRequirePackage{l warp-xcolor}%
2 \LWR@ProvidesPackagePass{cancel}[2013/04/12]

\cancelto is math-only, so is used as-is.

```

3 \LetLtxMacro{\LWR@origcancel}{cancel}
4 \LetLtxMacro{\LWR@origbcancel}{bcancel}
5 \LetLtxMacro{\LWR@origxcancel}{xcancel}
6
7 \appto{\LWR@restoreorigformatting}{%
8 \LetLtxMacro{\cancel}{\LWR@origcancel}%
9 \LetLtxMacro{\bcancel}{\LWR@origbcancel}%
10 \LetLtxMacro{\xcancel}{\LWR@origxcancel}%
11 }

```

\LWR@cancelcolor {\text} {\color} {\class} {\colorstyle} {FormatWPstyle}

Add colors if not empty:

```

12 \newcommand{\LWR@cancelcolor}[5]{%
13 \ifcsempty{#2}%
14 {\InlineClass{#5}{#3}{#1}}%
15 {\LWR@htmlspanclass[#5:#4:\LWR@origpound\LWR@tempcolor]{#3}{#1}}%
16 }

```

```

\cancel {⟨text⟩}
17 \DeclareRobustCommand{\cancel}[1]{%
18 \begingroup%
19 \CancelColor{%
20 \LWR@findcurrenttextcolor{%
21 \color{black}}{%
22 \LWR@cancelcolor{#1}{\LWR@tempcolor}{sout}{text-decoration-color}{%
23   {text-decoration:line-through}}{%
24 \endgroup{%
25 }{%
26 \LetLtxMacro{\bcancel}{\cancel{%
27 \LetLtxMacro{\xcancel}{\cancel{%
28

```

File 64 **l warp-canoniclayout.sty**

§ 164 Package **canoniclayout**

Pkg canoniclayout canoniclayout is ignored.

for HTML output:

```

s1 \LWR@ProvidesPackageDrop{canoniclayout}[2011/11/05]

2 \newcommand*{\currentfontletters}{}{%
3 \newcommand*{\charactersperpage}{}{%

```

File 65 **l warp-caption.sty**

§ 165 Package **caption**

(Emulates or patches code by AXEL SOMMERFELDT.)

Pkg caption caption is patched for use by l warp.

for HTML output:

```

1 \typeout{---}
2 \typeout{Packages l warp and caption:}
3 \typeout{If a ‘‘Missing \protect\begin\protect{document}\protect’’ error occurs here,}
4 \typeout{try using: \space \protect\usepackage\protect{caption\protect}\space\protect\captionsetup{opti
5 \typeout{instead of: \protect\usepackage[options]\protect{caption\protect}.}
6 \typeout{---}
7
8 \LWR@ProvidesPackagePass{caption}[2019/09/01]

9 \renewcommand\caption@ibox[3]{%
10  \@testopt{\caption@ibox{#1}{#2}{#3}}{%
11 %           \wd\@tempboxa%
12           \linewidth\ l warp
13 }%
14 % \LWR@traceinfo{caption@ibox: done}%
15 }

```

```
16 \long\def\caption@iiibox#1#2#3[#4]{%
17   \@testopt{\caption@iiibox{#1}{#2}{#3}{#4}}\captionbox@hj@default
18 }

19 \long\def\caption@iiibox#1#2#3#4[#5]{%
20 %   \setbox@\tempboxa\hbox{#6}%
21   \begingroup
22   #1*% set \caption@position
23   \caption@iftop{%
24     \LWR@traceinfo{caption@iiibox top}%
25   \endgroup
26   \parbox[t]{#4}{%
27     #1\relax
28     \caption@setposition t%
29 %       \vbox{\caption#2{#3}}%
30     {\caption#2{#3}}% lwarp
31 %       \captionbox@hrule
32 %       \csname caption@hj@#5\endcsname
33 %       \unhbox\@tempboxa
34     #6% lwarp
35   }%
36 }{%
37   \LWR@traceinfo{caption@iiibox bottom}%
38 \endgroup
39 \parbox[b]{#4}{%
40   #1\relax
41   \caption@setposition b%
42 %       \csname caption@hj@#5\endcsname
43 %       \unhbox\@tempboxa
44     #6% lwarp
45 %       \captionbox@hrule
46 %       \vtop{\caption#2{#3}}%
47     {\caption#2{#3}}% lwarp
48   }%
49 }%
50 \LWR@traceinfo{caption@iiibox: done}%
51 }
52
53 % \def\caption@caption{%
54 %   \caption@iftype
55 %   {%
56 %     \caption@checkgrouplevel\empty\caption
57 %     \caption@star
58 %       {\caption@refstepcounter\@capttype}%
59 %       {\caption@dblarg{\caption\@capttype}}}%
60 %     {\caption@Error{\noexpand\caption outside float}%
61 %       \caption@gobble}%
62 %   }
63
64 \long\def\caption@@caption#1[#2]{%
65   \ifcaption@star
66   \else
67   \caption@prepareanchor{#1}{#2}%
68   \memcaptioninfo{#1}{\csname the#1\endcsname}{#2}{#3}%
69 }
```

```
69      \@nameuse{nag@hascaptiontrue}%
70  \fi

71  \par
72  \caption@beginex{\#1}{\#2}{\#3}%
73  \caption@setfloatcapt{%
74    \caption@boxrestore
75    \if@minipage
76      \setminipage
77    \fi
78    \caption@normalsize

79    \ifcaption@star
80      \let\caption@makeanchor\@firstofone
81      \#3%           lwarp
82    \else%
83      \makecaption{\csname fnum@\#1\endcsname}%
84      {\ignorespaces\caption@makeanchor{\#3}}%
85    \fi           lwarp

86 % \par
87      \caption@if@minipage{\minipagetrue}{\minipagetrue}%
88  \caption@end%
89 }

\caption@@@make  {\langle caption label\rangle} {\langle caption text\rangle}
90 \renewcommand\caption@@@make[2]{%
91 \LWR@traceinfo{caption@@@make}%
92 %   \sbox{\tempboxa{\#1}%
93 %   \ifdim\wd\tempboxa=\z@
94 %     \let\caption@lsep\relax
95 %   \fi
96 %   \caption@ifempty{\#2}{%
97 %     \let\caption@lsep\empty
98 %     \let\caption@tfmt\@firstofone
99 %   }%
100 \caption@applyfont

\caption@fmt with plain format is defined as {\#1\#2\#3\par}:
101 %    \caption@fmt
102 { \ifcaption@star \else
103   \begingroup
104   \captionlabelfont
105   \#1%
106   \endgroup
107   \fi }%
108 { \ifcaption@star \else
109   \begingroup
110   \caption@iflf{\captionlabelfont
111   \relax
112   \caption@lsep
113   \endgroup
```

```

114      \fi}%
115  {{%
116      \captiontextfont
117 %     \caption@ifstrut
118 %     {\vrule\@height\ht\strutbox\@width\z@}%
119 %     {}%
120 %     \nobreak\hskip\z@skip % enable hyphenation
121     \caption@tfmt{#2}%
122 %     \caption@ifstrut
123 %     {\ifhmode\@finalstrut\strutbox\fi}%
124 %     {}%
125     }}%
126 \LWR@traceinfo{caption@@@make done}%
127 }

\caption@@make@  {<>} {<>}

128 \renewcommand{\caption@@make@}[2]{%
129   \caption@stepthecounter
130   \caption@beginhook
131   \caption@@make{#1}{#2}%
132   \caption@endhook
133 }

\caption@makecaption

134 \long\def\caption@makecaption#1#2{%
135 %   \caption@iftop
136 %   {\vskip\belowcaptionskip}%
137 %   {\caption@rule\vskip\abovecaptionskip}%
138   \caption@@make{#1}{#2}%
139 %   \caption@iftop
140 %   {\vskip\abovecaptionskip\caption@rule}%
141 %   {\vskip\belowcaptionskip}%
142 }

143 % \DeclareCaptionBox{none}{#2}
144 \DeclareCaptionBox{parbox}{%
145 #2%
146 }
147 \DeclareCaptionBox{colorbox}{%
148 #2%
149 }

```

File 66 **lwarf-cases.sty**

§ 166 Package **CASES**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg cases cases is patched for use by lwarf.

While using MATHJAX, `cases` objects are converted to SVG math images.

```
for HTML output: 1 \LWR@ProvidesPackagePass{cases}[2002/05/02]

2 \BeforeBeginEnvironment{numcases}{
3   \begin{BlockClass}{displaymathnumbered}
4   \LWR@newautoidanchor%
5   \booltrue{\LWR@indisplaymathimage}%
6   \begin{lateximage}{[-cases- \MathImageAltText]}
7 }
8
9 \AfterEndEnvironment{numcases}{
10   \end{lateximage}\end{BlockClass}
11 }
12
13 \BeforeBeginEnvironment{subnumcases}{
14   \begin{BlockClass}{displaymathnumbered}
15   \LWR@newautoidanchor%
16   \booltrue{\LWR@indisplaymathimage}%
17   \begin{lateximage}{[-cases- \MathImageAltText]}
18 }
19
20 \AfterEndEnvironment{subnumcases}{
21   \end{lateximage}\end{BlockClass}
22 }
```

File 67 **l warp-centernot.sty**

§ 167 Package **centernot**

(Emulates or patches code by HEIKO OBERDIEK.)

Pkg `centernot` `centernot` is used as-is for SVG math, and emulated for MATHJAX.

```
for HTML output: 1 \LWR@ProvidesPackagePass{centernot}[2016/05/16]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\centernot}[1]{\not{\!#1\,}}}
4 \end{warpMathJax}
```

File 68 **l warp-changebar.sty**

§ 168 Package **changebar**

Pkg `changebar` `changebar` is ignored.

```
for HTML output: 1 \LWR@ProvidesPackageDrop{changebar}[2018/03/09]
```

```
2 \newcommand*{\cbstart}{}  
3 \newcommand*{\cbend}{}  
4 \newenvironment*{\changebar}{}{}  
5 \newcommand*{\cbdelete}{}  
6 \newcommand*{\nochnagebars}{}  
7 \newcommand*{\cbccolor}[1]{}  
8 \newlength{\changebarwidth}  
9 \newlength{\deletebarwidth}  
10 \newlength{\changebarsep}  
11 \newcounter{changebargrey}
```

File 69 l warp-changelayout.sty**§ 169 Package changelayout**

(Emulates or patches code by AHMED MUSA.)

Pkg changelayout changelayout is patched for use by l warp.

for HTML output:

```
1 \LWR@ProvidesPackagePass{changelayout}[2009/10/07]  
  
2 \renewrobustcmd\cpl@backtodefaults{}  
3  
4 \renewrobustcmd\cpl@checkifoddpage{  
5   \cpl@oddpagefalse%  
6 }  
7  
8 \renewrobustcmd\changepagelayout[1]{%  
9   \setkeys[KV]{changelay}{#1}%  
10 }  
11  
12 \renewrobustcmd{\changetextlayout}[1]{\changepagelayout{#1}}  
13  
14 \renewrobustcmd\adjustpagelayout[1]{%  
15   \setkeys[KV@X]{changelay}{#1}%  
16 }  
17  
18 \renewrobustcmd{\adjusttextlayout}[1]{\adjustpagelayout{#1}}  
19  
20 \renewrobustcmd\adjusttextwidth[1]{%  
21   \setkeys[KV]{changelay}{#1}%  
22   \begin{BlockClass}[color:\LWR@colorstyle{named}{\cpl@textcolor}]{changelayout}  
23     \color{\cpl@textcolor}%  
24     \cpl@content  
25   \end{BlockClass}  
26 }
```

File 70 l warp-changepage.sty**§ 170 Package changespage**

(Emulates or patches code by PETER WILSON.)

Pkg changespage changepage is ignored.

for HTML output: Discard all options for l warp-changepage:

```
1 \LWR@ProvidesPackageDrop{changepage}[2009/10/20]

2 \newif\ifoddpage
3 \DeclareRobustCommand{\checkoddpage}{\oddpage=true}
4 \DeclareRobustCommand{\changetext}[5]{}
5 \DeclareRobustCommand{\changepage}[9]{}
6
7 \@ifundefined{adjustwidth}{}
8 \newenvironment{adjustwidth}[2]{}{}
9 \newenvironment{adjustwidth*}[2]{}{}
10 }{
11 \renewenvironment{adjustwidth}[2]{}{}
12 \renewenvironment{adjustwidth*}[2]{}{}
13 }

14 \DeclareDocumentCommand{\strictpagecheck}{}{}
15 \DeclareDocumentCommand{\easypagecheck}{}{}
```

File 71 l warp-changes.sty**§ 171 Package changes**

(Emulates or patches code by EKKART KLEINOD.)

Pkg changes changes is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{changes}[2019/01/26]

\BaseJobname is added to the label in case xr or xr-hyper are used.

```
2 \renewcommand{\ChangesListline}[4]{%
3   \IfSubStr{\Changes@loc@show}{#1}{%
4     \LWR@startpars%
5     #2: #3 \qquad%
6     \nameref{\BaseJobname-autopage-#4}%
7     \LWR@stoppars%
8   }{}}%
```

```
9 }
10
11 \renewcommand{\Changes@summaryline}[4]{%
12     \IfSubStr{\Changes@loc@show}{#1}{%
13         \ifthenelse{\not\equal{\Changes@loc@style}{compactsummary} \or #2 > 0}{%
14             {%
15                 #3:#2#4%
16             }{}%
17         }{}%
18     }%
19
20 \xpatchcmd{\listofchanges}
21     {{\changesauthorname: \changesanonymousname}}
22     {{\LWR@textcurrentcolor{\changesauthorname: \changesanonymousname}}}
23     {}
24     {\LWR@patcherror{changes}{listofchanges A}}
25
26 \xpatchcmd{\listofchanges}
27     {\changesauthorname: \Changes@InID}
28     {{\LWR@textcurrentcolor{\changesauthorname: \Changes@InID}}}
29     {}
30     {\LWR@patcherror{changes}{listofchanges B}}
31
32 \xpatchcmd{\listofchanges}
33     {(\Changes@InName)}
34     {{\LWR@textcurrentcolor{(\Changes@InName)}}}
35     {}
36     {\LWR@patcherror{changes}{listofchanges C}}
37
38 \xpatchcmd{\listofchanges}
39     {\parbox{\Changes@summary@width}}
40     {}
41     {}
42     {\LWR@patcherror{changes}{listofchanges D}}
43
44 \xpatchcmd{\Changes@Markup@comment}
45     {%
46         \ifthenelse{\isAnonymous{#2}}{%
47             {\textbf{[\arabic{Changes@commentCount}]:}} }%
48             {\textbf{[#3~\arabic{Changes@commentCount}]:}} }%
49             #1%
50     }
51     {%
52         \LWR@textcurrentcolor%           lwarp
53         \ifthenelse{\isAnonymous{#2}}{%
54             {\textbf{[\arabic{Changes@commentCount}]:}} }%
55             {\textbf{[#3~\arabic{Changes@commentCount}]:}} }%
56             #1%
57         }%                                lwarp
58     }
59     {}
60     {\LWR@patcherror{changes}{\Changes@Markup@comment A}}
61
62 \xpatchcmd{\Changes@Markup@comment}
63     {%
```

```
64      \uwave{%
65          \ifthenelse{\isAnonymous{#2}}{%
66              {\textbf{[\arabic{Changes@commentCount}]:}} }%
67              {\textbf{[#3`\arabic{Changes@commentCount}]:}} }%
68          #1%
69      }%
70  }%
71 {%
72     \LWR{textcurrentcolor}{lwarp}
73     \uwave{%
74         \ifthenelse{\isAnonymous{#2}}{%
75             {\textbf{[\arabic{Changes@commentCount}]:}} }%
76             {\textbf{[#3`\arabic{Changes@commentCount}]:}} }%
77         #1%
78     }%
79     }%
80  }%
81  {}%
82  {\LWR{patcherror{changes}{\Changes@Markup@comment B}}}
83
84 \xpatchcmd{\Changes@output}
85   {\Changes@Markup@author{\Changes@output@author{#2}{left}}}
86   {\LWR{textcurrentcolor}{\Changes@Markup@author{\Changes@output@author{#2}{left}}}}
87   {}
88   {\LWR{patcherror{changes}{Changes@output A}}}
89
90 \xpatchcmd{\Changes@output}
91   {%
92       \ifthenelse{\equal{#1}{added}}{\Changes@Markup@added{#3}}{}%
93       \ifthenelse{\equal{#1}{deleted}}{\Changes@Markup@deleted{#4}}{}%
94       \ifthenelse{\equal{#1}{replaced}}{%
95           {\Changes@Markup@added{#3}}\allowbreak\Changes@Markup@deleted{#4}}%
96       }{}%
97       \ifthenelse{\equal{#1}{highlight}}{\Changes@Markup@highlight{#3}}{}%
98   }
99   {%
100      \LWR{textcurrentcolor}{%
101      \ifthenelse{\equal{#1}{added}}{\Changes@Markup@added{#3}}{}%
102      \ifthenelse{\equal{#1}{deleted}}{\Changes@Markup@deleted{#4}}{}%
103      \ifthenelse{\equal{#1}{replaced}}{%
104          {\Changes@Markup@added{#3}}\allowbreak\Changes@Markup@deleted{#4}}%
105      }{}%
106      \ifthenelse{\equal{#1}{highlight}}{\Changes@Markup@highlight{#3}}{}%
107      }%
108  }
109  {}%
110  {\LWR{patcherror{changes}{Changes@output B}}}
111
112 \xpatchcmd{\Changes@output}
113   {\Changes@Markup@author{\Changes@output@author{#2}{right}}}
114   {\LWR{textcurrentcolor}{\Changes@Markup@author{\Changes@output@author{#2}{right}}}}
115   {}
116   {\LWR{patcherror{changes}{Changes@output C}}}
```

File 72 l warp-chappg.sty**§ 172 Package chappg**

(Emulates or patches code by ROBIN FAIRBAIRNS.)

Pkg chappg chappg is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{chappg}[2006/05/09]

2 \renewcommand{\pagenumbering}{2}[]{}
3 \providecommand{\chappgsep}{--}

File 73 l warp-chapterbib.sty**§ 173 Package chapterbib**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg chapterbib chapterbib is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{chapterbib}[2010/09/18]

2 \xdef\@savedjobname{\BaseJobname}
3 \let\@currentipfile\@savedjobname

File 74 l warp-chemfig.sty**§ 174 Package chemfig**

(Emulates or patches code by CHRISTIAN TELLECHEA.)

Pkg chemfig chemfig is patched for use by l warp.

If using \polymerdelim to add delimiters to a \chemfig, wrap both inside a single \teximage:

```
\begin{teximage}[-chemfig-~\PackageDiagramAltText]
\chemfig{...}
\polymerdelim[...]{...}
\end{teximage}
```

The images are not hashed because they depend on external settings which may be changed at any time, and are unlikely to be reused inline anyhow.

for HTML output: 1 \LWR@ProvidesPackagePass{chemfig}[2020/03/05]

```
2
3 \catcode`\_=11
4
5 \@ifpackagelater{chemfig}{2020/03/05}
6 {
7     \xpretocmd\charge{\begin{ lateximage }[-chemfig-~\PackageDiagramAltText]}{%
8         {}{\LWR@patcherror{chemfig}{charge}}%
9     \xpretocmd\Charge{\begin{ lateximage }[-chemfig-~\PackageDiagramAltText]}{%
10        {}{\LWR@patcherror{chemfig}{Charge}}%
11     \xapptocmd\charge_c{\end{ lateximage }}{%
12         {}{\LWR@patcherror{chemfig}{charge_c}}%
13 }{}%
14
15 \@ifpackagelater{chemfig}{2019/04/18}%
16 {%
17 % 2019/04/18 or newer
18
19     \LetLtxMacro{\LWR@chemfig}{\origchemfig\chemfig}
20
21     \renewcommand*{\chemfig}[2][]{%
22         \begin{ lateximage }[-chemfig-~\PackageDiagramAltText]%
23             \LWR@chemfig{\origchemfig[#1]{#2}}%
24         \end{ lateximage }%
25     }
26
27     \GlobalLetLtxMacro{\LWR@chemfig}{\origCF_lewisc\CF_lewisc}
28     \gdef\CF_lewisc#1,#2_\nil{%
29         \begin{ lateximage }[-chemfig-~\PackageDiagramAltText]%
30             \LWR@chemfig{\origCF_lewisc#1,#2_\nil}
31         \end{ lateximage }%
32     }
33
34     \gpreto{\schemestart}{%
35         \begin{ lateximage }[-chemfig-~\PackageDiagramAltText]%
36     }
37     \gappto{\CF_schemestop}{\end{ lateximage }%
38
39 }% 2019/04/18 or newer
40 {%
41 % older than 2019/04/18
42     \LetLtxMacro{\LWR@chemfig}{\origchemfig\chemfig}
43
44     \DeclareDocumentCommand\chemfig{s O{} O{} m}{%
45         \begin{ lateximage }[-chemfig-~\PackageDiagramAltText]%
46         \IfBooleanTF{#1}{%
47             \LWR@chemfig{\origchemfig*[#2][#3]{#4}}%
48         }{%
49             \LWR@chemfig{\origchemfig[#2][#3]{#4}}%
50         }
51         \end{ lateximage }%
52     }
53
54     \LetLtxMacro{\LWR@chemfig}{\origCF@lewis@b\CF@lewis@b}
55
56     \def\CF@lewis@b#1#2{%
```

```

57 \begin{ lateximage } [ -chemfig {~\PackageDiagramAltText} ] %
58 \LWR@chemfig@origCF@lewis@b{#1}{#2} %
59 \end{ lateximage } %
60 }
61
62 \preto{\schemestart}{%
63   \begin{ lateximage } [ -chemfig {~\PackageDiagramAltText} ] %
64 }
65 \appto{\CF@schemestop}{\end{ lateximage }} %
66
67 }% older than 2019/04/18
68
69 \catcode`\_=8%
70
71
72
73 \LetLtxMacro{\LWR@chemfig@origchemleft}{\chemleft}
74
75 \def\chemleft#1#2\chemright#3{%
76 \begin{ lateximage } [ -chemfig {~\PackageDiagramAltText} ] %
77 \LWR@chemfig@origchemleft#1#2\chemright#3%
78 \end{ lateximage } %
79 }
80
81 \LetLtxMacro{\LWR@chemfig@origchemup}{\chemup}
82
83 \def\chemup#1#2\chemdown#3{%
84 \begin{ lateximage } [ -chemfig {~\PackageDiagramAltText} ] %
85 \LWR@chemfig@origchemup#1#2\chemdown#3%
86 \end{ lateximage } %
87 }

```

File 75 l warp-chemformula.sty

§ 175 Package chemformula

(Emulates or patches code by CLEMENS NIEDERBERGER.)

Pkg chemformula chemformula is patched for use by l warp.

The SVG images are hashed according to contents and local options. Global options are assumed to be constant document-wide.

- ⚠ **chemformula with MATHJAX** chemformula works best without MATHJAX. If MATHJAX is used, \displaymathother must be used before array, and then \displaymathnormal may be used after. (The chemformula package adapts to array, but does not know about MATHJAX, and MATHJAX does not know about chemformula.)

While using MATHJAX, \displaymathother may also be used for other forms of display and inline math which contain chemformula expressions.

for HTML output 1 \LWR@ProvidesPackagePass{chemformula}[2019/10/13]

```
2 \ExplSyntaxOn
```

\ch Enclose in an inline svg image or MathJax. The alt tag is the contents of the \ch expression. The filename is hashed, and also has additional hashing information based on the local options.

```
3 \RenewDocumentCommand \ch { O{ }m }
4   {%
```

To work inside align with \displaymath other, a simple version must be used to work with chemformula's adaptation to align.

```
5   \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
6   {
7     \chemformula_ch:nn {#1} {#2}%
8   } original
```

If used as the outer level, must temporarily ensure MATHJAX is disabled:

```
9   {
10     \begingroup%
11     \boolfalse{mathjax}%

```

An inline image is used, adjusted for the baseline:

```
12   \LWR@subsingledollar*{%
13     \textbackslash{}ch\{\LWR@HTMLsanitize{#2}\}%
14   } alt text
15   \protect\LWR@HTMLsanitize{\detokenize\expandafter{#1}}%
16   add'l hashing
17   \%
18   \chemformula_ch:nn {#1} {#2}%
19   original
20   \endgroup%
21 }
22 }
```

\chcpd Similar to \ch.

```
23 \@ifpackagelater{chemformula}{2019/10/13}%
24 \cs_gset_protected:Npn \chemformula_chcpd:nn #1#2
25 {
26   \begingroup%
27   \boolfalse{mathjax}%
28   \LWR@subsingledollar*{%
29     \textbackslash{}chcpd\{\LWR@HTMLsanitize{#2}\}%
30   }%
31   \protect\LWR@HTMLsanitize{\detokenize\expandafter{#1}}%
32   \original
33   \group_begin:
34   \tl_if_blank:nF {#2}
35   {
36     \keys_set:nn {chemformula} {#1}
37     \__chemformula_save_catcodes:
38     \__chemformula_sanitize:Nn
39     \l__chemformula_chemformula_tmpa_tl
40     {#2}
```

```

41      \__chemformula_input_compound_no_check:NV
42          \l__chemformula_compound_tl
43          \l__chemformula_chemformula_tmpa_tl
44      \__chemformula_prepare_output:NV
45          \l__chemformula_compound_tl
46          \l__chemformula_catcodes_tl
47      \chemformula_write:V \l__chemformula_compound_tl
48  }
49 \group_end:
50 }
51 \endgroup
52 }
53 }% later than 2019/10/13
54 {% earlier than 2019/10/13
55 \cs_gset_protected:Npn \chemformula_chcpd:nn #1#2
56 {
57     \begingroup%
58     \boolfalse{mathjax}%
59     \LWR@subsingledollar*{%
60         \textbackslash{}chcpd\{\LWR@HTMLsanitize{#2}\}%
61     }{%
62         \protect\LWR@HTMLsanitize{\detokenize\expandafter{#1}}%
63     }% original
64     \group_begin:
65     \tl_if_blank:nF {#2}
66     {
67         \keys_set:nn {chemformula} {#1}
68         \__chemformula_save_catcodes:
69         \__chemformula_sanitize:Nn
70             \l__chemformula_chemformula_tmpa_tl
71             {#2}
72         \__chemformula_input_compound_no_check:NV
73             \l__chemformula_compound_tl
74             \l__chemformula_chemformula_tmpa_tl
75         \__chemformula_prepare_output:N \l__chemformula_compound_tl
76         \chemformula_write:V \l__chemformula_compound_tl
77     }
78     \group_end:
79 }
80 \endgroup
81 }
82 }% earlier than 2019/10/13

```

\charrow If standalone, appears in a regular `lateximage`.

```

83 \RenewDocumentCommand \charrow { mO{}O{} }
84 {
85     \begin{lateximage}[-chemformula- charrow]
86     \group_begin:
87         \__chemformula_draw_arrow:nnn {#1} {#2} {#3}
88     \group_end:
89     \end{lateximage}
90 }

```

\chname If standalone, appears in a regular `lateximage`, hashed according to contents.

```

91 \RenewDocumentCommand \chname { R(){}R(){} }
92 {
93     \begin{lateximage}*[%
94         \textbackslash chname(\LWR@HTMLsanitize{\#1})(\LWR@HTMLsanitize{\#2})
95     ]*%
96         \chemformula_chwritebelow:nn {\#1} {\#2}
97     \end{lateximage}
98 }
```

\chlewis Placed inline, hashed according to contents and options.

```

99 \RenewDocumentCommand \chlewis { O{}mm }
100 {
101     \begingroup%
102     \boolfalse{mathjax}%
103     \LWR@subsingleollar*\textbackslash chlewis\{\#2\}\{\#3\}%
104     {
105         \protect\LWR@HTMLsanitize{\detokenize\expandafter{\#1}}%
106     }%
107     \chemformula_lewis:nnn {\#1} {\#2} {\#3}
108 }
109 \endgroup
110 }
```

`lwarp` redefines the \$ character, so special handling is required to escape math expressions inside `\ch`.

This boolean tracks a new kind of escaped math:

```
111 \bool_new:N      \l__chemformula_first_last_LWRdollar_bool
```

\chemformula_input_escape_math

Adds additional escaping for the new dollar definition:

```

112 \cs_gset_protected:Npn \__chemformula_input_escape_math:n #1
113 {
114     \__chemformula_first_last_math:n {\#1}
115     \bool_if:NT \l__chemformula_first_last_dollar_bool
116     {
117         \bool_set_true:N \l__chemformula_first_last_math_bool
118         \__chemformula_read_escape_dollar:w #1 \q_nil
119     }
120     \bool_if:NT \l__chemformula_first_last_mathbraces_bool
121     {
122         \bool_set_true:N \l__chemformula_first_last_math_bool
123         \__chemformula_read_escape_mathbraces:w #1 \q_nil
124     }
```

Added by `lwarp`:

```

125 \bool_if:NT \l__chemformula_first_last_LWRdollar_bool%      lwarp
126 {
127     \bool_set_true:N \l__chemformula_first_last_math_bool%  lwarp
```

```

128      \__chemformula_read_escape_LWRdollar:w #1 \q_nil%      lwarp
129      }
130  }
```

\chemformula_read_escape_LWRdollar

The following parses the contents inside the new dollars.

lwarp keeps the dollar as its original math shift until the document starts. While chemmacros is being patched, the dollar must temporarily be set to its new meaning during the following definition.

```

131 \begingroup
132 \catcode`\$=\active
133
134 \cs_new_protected:Npn \__chemformula_read_escape_LWRdollar:w $#1$ \q_nil
135 {
136     \__chemformula_read_escape_math:n {#1}
137 }
138
139 \endgroup
```

\chemformula_bool_set_if_first_last

The following looks at the first and last tokens for delimiters to escape math inside \ch. The original definition is modified to look for the control sequences which are used by the new meaning of \$.

```

140 \cs_new_protected:Npn \__chemformula_bool_cs_set_if_first_last:NnNN #1#2#3#4
141  {
142      \int_zero:N \l__chemformula_tmpa_int
143      \int_zero:N \l__chemformula_tmpb_int
144      \int_set:Nn \l__chemformula_tmpa_int { \tl_count:n {#2} }
145      \tl_map_inline:nn {#2}
146      {
147          \int_incr:N \l__chemformula_tmpb_int
148          \int_compare:nT { \l__chemformula_tmpb_int = 1 }
149          {
```

At the start, the cs_ version compares control sequences:

```

150      \ifdstreq{##1}{#3}% lwarp
151      {
152          \bool_set_true:N #1
153      }% lwarp
154      {}
155  }
```

At the end, compare more control sequences:

```

156      \int_compare:nT { \l__chemformula_tmpb_int = \l__chemformula_tmpa_int }
157      {
158          \ifdstreq{##1}{#4}
159          {}
160          {
161              \bool_set_false:N #1
```

```

162          }
163      }
164  }
165 }
```

\chemformula_first_last_math

Modified to check for the new meaning of \$ at first/last:

```

166 \cs_gset_protected:Npn \__chemformula_first_last_math:n #1
167 {
168     \bool_set_false:N \l__chemformula_first_last_math_bool
169     \bool_set_false:N \l__chemformula_first_last_dollar_bool
170     \bool_set_false:N \l__chemformula_first_last_LWRdollar_bool% lwarp
171     \bool_set_false:N \l__chemformula_first_last_mathbraces_bool
172     \__chemformula_bool_set_if_first_last:Nnnn
173         \l__chemformula_first_last_dollar_bool
174         {#1}
175         { $ } { $ }
176     \bool_if:NF \l__chemformula_first_last_dollar_bool
177     {
178         \__chemformula_bool_set_if_first_last:Nnnn
179             \l__chemformula_first_last_mathbraces_bool
180             {#1}
181             { \{ } { \} }
```

Added by lwarp:

```

182     \bool_if:NF \l__chemformula_first_last_mathbraces_bool% lwarp
183     {
184         \__chemformula_bool_cs_set_if_first_last:NnnN
185         \l__chemformula_first_last_LWRdollar_bool
186         {#1}
187         { \LWR@newsingledollar } { \LWR@newsingledollar }
188     }% lwarp
189 }
190 }
```

```
191 \ExplSyntaxOff
```

File 76 **lwarp-chemgreek.sty**§ 176 Package **chemgreek**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

Pkg chemgreek chemgreek is patched for use by lwarp.

Greek symbols To use text-mode symbols, use packages `textalpha` or `textgreek`. Using the other packages supported by `chemgreek` will result in math-mode greek characters, which will result in SVG images being used. These images will be hashed.

⚠ X_ELa_TE_X, Lua_La_TE_X If using X_ELa_TE_X or Lua_La_TE_X, select the `fontspec` mapping:

```
\selectchemgreekmapping{fontspec}

for HTML output: 1 \LWR@ProvidesPackagePass{chemgreek}[2016/02/10]

2 \ExplSyntaxOn
3
4 \cs_gset_protected:Npn \chemgreek_text:n #1
5   { { \text {#1} } }
6
7 \appto\LWR@restoreorigformatting{%
8 \cs_set_protected:Npn \chemgreek_text:n #1%
9   { \ensuremath { \text {#1} } } }%
10 }
11
12 \ExplSyntaxOff
```

File 77 **lwarf-chemmacros.sty**

§ 177 Package **chemmacros**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

Pkg chemmacros chemmacros is patched for use by lwarf.

for HTML output: 1 \LWR@ProvidesPackagePass{chemmacros}[2017/08/28]

SVG file hashing assumes that the relevant options are constant for the entire document.

§ 177.1 Changes to the user's document

⚠ **\makepolymerdelims** When using `\makepolymerdelims`, enclose the entire expression inside a `polymerdelims` environment, such as (from the `chemmacros` manual):

```
\begin{polymerdelims}
\chemfig{-[@{op,.75}]CH_2-CH(-[6]Cl)-[@{cl,0.25}]}
\makepolymerdelims{5pt}[27pt]{op}{cl}
\end{polymerdelims}
```

⚠ **redox reactions** Redox reactions must be enclosed inside a `redoxreaction` environment. For print output, extra space must be included above and/or below the result, so they are declared as arguments to the environment, instead of being manually entered as per the `chemmacros` manual. For HTML output, the extra space is ignored and a `lateximage` is used instead.

```
\begin{redoxreaction}{7mm}{7mm}
\OX{a,Na} $ \rightarrow $ \OX{b,Na}\pch\redox(a,b){oxidation}
\end{redoxreaction}
```

§ 177.2 Code

§ 177.3 Loading modules

Patching chemmacros modules must be done `\AtBeginDocument`, since modules are invoked by the user in the preamble, and each patch is only done if the module is loaded.

```

2 \ExplSyntaxOn
3
4 \newcommand{\@ifchemmacrosmoduleloaded}[1]{%
5 \iffilead{c__chemmacros_module_extension_tl}{c__chemmacros_module_prefix_tl.#1}%
6 }
7
8 \ExplSyntaxOff

```

§ 177.4 New environments

`\makepolymerdelims` and redox reactions must be enclosed in a `lateximage` during HTML output. These environments are provided here in HTML mode, and in the `lwarp` core in print mode, as a high-level semantic syntax which automatically embeds the contents in a `lateximage` with an appropriate `alt` tag.

Env `polymerdelims`

```

9 \DeclareDocumentEnvironment{polymerdelims}{}%
10 {\begin{lateximage}[-chemmacros- polymer]}%
11 {\end{lateximage}}

```

Env `redoxreaction` *{<space above>} {<space below>}*

For HTML output, the above and below space is ignored, and a `lateximage` is used instead. For the print output version, see section 86.

```

12 \DeclareDocumentEnvironment{redoxreaction}{m m}%
13 {\begin{lateximage}[-chemmacros- redoxreaction]}%
14 {\end{lateximage}}

```

```
15 \ExplSyntaxOn
```

§ 177.5 Acid-base

```

16 \AtBeginDocument{%
17 \@ifchemmacrosmoduleloaded{acid-base}{%
18 \PackageInfo{lwarp}{Patching~chemmacros~module~acid-base}%
19
20 \cs_gset_protected:Npn \chemmacros_p:n #1{%
21   {
22     \begingroup
23     \boolfalse{mathjax}
24     \LWR@subsingle dollar*{%
25       \textbackslash{}p\{\LWR@HTMLsanitize{#1}\}%
26     }{%
27       \chemmacrosp\protect\LWR@HTMLsanitize{\detokenize\expandafter{#1}}%
28     }%
29   }%
30   \endgroup
31 }
32 \chemmacrosp\protect\LWR@HTMLsanitize{\detokenize\expandafter{#1}}%
33 }%
34 }%
35 }%
36 }%
37 }%
38 }%
39 }%
40 }%
41 }%
42 }%
43 }%
44 }%
45 }%
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779 }%
779 }
```

```
28    }{
29    \group_begin:
30    \mbox
31    {
32        \chemmacros_p_style:n {p}
33        \ensuremath {\#1}
34    }
35    \group_end:
36    }
37    \endgroup
38 }
39
40 \RenewDocumentCommand \pH {} {
41     \begingroup
42     \boolfalse{mathjax}
43     \LWR@subsingledollar*\{\textbackslash{}pH\}{chemmacros}{
44         \chemmacros_p:n { \chemmacros_chemformula:n {H} }
45     }
46     \endgroup
47 }
48
49 \RenewDocumentCommand \pOH {} {
50     \begingroup
51     \boolfalse{mathjax}
52     \LWR@subsingledollar*\{\textbackslash{}pOH\}{chemmacros}{
53         \chemmacros_p:n { \chemmacros_chemformula:n {OH} }
54     }
55     \endgroup
56 }
57
58 \RenewDocumentCommand \pKa {O{}}
59 {
60     \begingroup
61     \boolfalse{mathjax}
62     \LWR@subsingledollar*\{\textbackslash{}pKa{[]}\#1{[]}\}{chemmacros #1} {
63         \chemmacros_p:n
64         {
65             \Ka \ifblank {\#1} {}
66             { {} \c_math_subscript_token { \chemmacros_bold:n {\#1} } }
67         }
68     }
69     \endgroup
70 }
71
72 \RenewDocumentCommand \pKb {O{}}
73 {
74     \begingroup
75     \boolfalse{mathjax}
76     \LWR@subsingledollar*\{\textbackslash{}pKb{[]}\#1{[]}\}{chemmacros #1} {
77         \chemmacros_p:n
78         {
79             \Kb \ifblank {\#1} {}
80             { {} \c_math_subscript_token { \chemmacros_bold:n {\#1} } }
81         }
82     }
```

```

83      \endgroup
84  }
85
86 \LetLtxMacro{\LWR@chemmacros@origKa}{\Ka}
87 \renewcommand*{\Ka}{%
88   \begingroup
89   \boolfalse{mathjax}
90   \LWR@subsingledollar*{\textbackslash{}Ka}{chemmacros}{%
91     \LWR@chemmacros@origKa%
92   }%
93   \endgroup
94 }
95
96 \LetLtxMacro{\LWR@chemmacros@origKb}{\Kb}
97 \renewcommand*{\Kb}{%
98   \begingroup
99   \boolfalse{mathjax}
100  \LWR@subsingledollar*{\textbackslash{}Kb}{chemmacros}{%
101    \LWR@chemmacros@origKb%
102  }%
103  \endgroup
104 }
105
106 \LetLtxMacro{\LWR@chemmacros@origKw}{\Kw}
107 \renewcommand*{\Kw}{%
108   \begingroup
109   \boolfalse{mathjax}
110   \LWR@subsingledollar*{\textbackslash{}Kw}{chemmacros}{%
111     \LWR@chemmacros@origKw
112   }%
113   \endgroup
114 }
115
116 }{}% \@ifchemmacrosmoduleloaded
117 }% AtBeginDocument

```

§ 177.6 Charges

```

118 \AtBeginDocument{
119 \@ifchemmacrosmoduleloaded{charges}%
120 \PackageInfo{lwarp}{Patching~chemmacros~module~charges}
121
122 \cs_gset_protected:Npn \fplus {
123   \begingroup
124   \boolfalse{mathjax}
125   \LWR@subsingledollar*{\textbackslash{}fplus}{chemmacros}{%
126     \LWR@origensuredmath{\chemformula_fplus:}%
127   }%
128   \endgroup
129 }%
130 \cs_gset_protected:Npn \fminus {
131   \begingroup
132   \boolfalse{mathjax}
133   \LWR@subsingledollar*{\textbackslash{}fminus}{chemmacros}{%
134     \LWR@origensuredmath{\chemformula_fminus:}%
135   }%

```

```
136 }{ }% \@ifchemmacrosmoduleloaded
137 }% AtBeginDocument
```

§ 177.7 Nomenclature

```
139 \AtBeginDocument{
140 \@ifchemmacrosmoduleloaded{nomenclature}){
141 \PackageInfo{lwarp}{Patching~chemmacrosmodule~nomenclature}
142
143 \cs_gset_protected:Npn \chemmacros_charge:n #1
144 {
145     \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}
146     {\chemmacros_chemformula:n { {}^{#1} {}}}
147     {
148         \ifmmode
149             {\chemmacros_chemformula:n { {}^{#1} {}}}
150         \else
151             { \textsuperscript{\ensuremath{#1}} }
152         \fi
153     }
154 }
155
156
157 \LetLtxMacro{\LWR@chemmacros@origchemprime}{\chemprime}
158
159 \protected\def\chemprime { \HTMLUnicode{2032} }
160
161 \appto{\LWR@restoreorigformatting}{%
162 \LetLtxMacro{\chemprime}{\LWR@chemmacros@origchemprime}%
163 }
164
165 \ChemCompatibilityFrom{5.8}
166 \cs_gset_protected:Npn \__chemmacros_cip:n #1
167 {
168     \tl_set:Nn \l__chemmacros_tmpa_tl {#1}
169     \int_step_inline:nnnn {0} {1} {9}
170     {
171         \tl_replace_all:Nnn \l__chemmacros_tmpa_tl
172             {##1}
173             { { \l__chemmacros_cip_number_tl ##1 } }
174     }
175     {
176         \l__chemmacros_cip_inner_tl
177         \LWR@textcurrentcolor{\LWR@textcurrentfont{\% lwarp
178             \l__chemmacros_tmpa_tl
179         }}% lwarp
180     }
181 \EndChemCompatibility
182
183 \RenewDocumentCommand \Sconf { O{S} } {
184 \begin{lateximage}[\textbackslash{}Sconf{[]#1{}]}*
185     \chemmacros_sconf:n {#1}
186 \end{lateximage}
```

```
187
188 \RenewDocumentCommand \Rconf { O{R} } {
189 \begin{lateximage}[\textbackslash{}textbackslash{}]{\Rconf{[]#1{}}]*}
190   \chemmacros_rconf:n {#1}
191 \end{lateximage}
192 }

193 \cs_gset_protected:Npn \chemmacros_hapto:n #1
194 {
195   \begingroup
196   \boolfalse{mathjax}
197   \LWR@subsingledollar*\{\textbackslash{}hapto\{#1\}\}{chemmacros}(
198     \chemmacros_coordination_symbol:nnnn
199     { \l_chemmacros_coord_use_hyphen_bool }
200     {
201       \chemmacros_if_compatibility:nnTF {>} {5.7}
202       { \c_true_bool }
203       { \c_false_bool }
204     }
205     { \chemeta }
206     {#1}
207   }
208   \endgroup
209 }
210

211 \cs_gset_protected:Npn \chemmacros_dento:n #1
212 {
213   \begingroup
214   \boolfalse{mathjax}
215   \LWR@subsingledollar*\{\textbackslash{}dento\{#1\}\}{chemmacros}(
216     \chemmacros_coordination_symbol:nnnn
217     { \l_chemmacros_coord_use_hyphen_bool }
218     {
219       \chemmacros_if_compatibility:nnTF {>} {5.7}
220       { \c_true_bool }
221       { \c_false_bool }
222     }
223     { \chemkappa }
224     {#1}
225   }
226   \endgroup
227 }
228

229 \cs_gset_protected:Npn \chemmacros_bridge:n #1
230 {
231   \begingroup
232   \boolfalse{mathjax}
233   \LWR@subsingledollar*\{\textbackslash{}bridge\{#1\}\}{chemmacros}(
234     \chemmacros_coordination_symbol:nnnn
235     { \l_chemmacros_coord_use_hyphen_bool }
236     { \l_chemmacros_bridge_super_bool }
237     { \chemmu }
238     {#1}
239   }
240   \endgroup
241 }
```

```
242 }{}% \@ifchemmacrosmoduleloaded
243 }% AtBeginDocument
```

§ 177.8 Particles

```
244 \AtBeginDocument{
245 \@ifchemmacrosmoduleloaded{particles}%
246 \PackageInfo{lwarp}{Patching~chemmacrosmodule~particles}
247
248 \cs_gset_protected:Npn \chemmacrosmacros_declare_nucleophile:Nn #1#2
249 {
250     \cs_set_protected:cpx {__chemmacrosmacros_ \chemmacrosmacros_remove_backslash:N #1:}
251     {
252         \bool_if:NTF \l__chemmacrosmacros_nucleophile_elpair_bool
253         {
254             \chemmacrosmacros_elpair:n {#2}
255             \chemmacrosmacros_if_compatibility:nnT {>=}{5.3}
256             { \skip_horizontal:N \l__chemmacrosmacros_nucleophile_dim }
257             \chemmacrosmacros_chemformula:n { {}^{ -} }
258         }
259         { \chemmacrosmacros_chemformula:n { #2^{ -} } }
260     }
261     \DeclareDocumentCommand #1 {o}
262     {
263         \begin{ lateximage }%
264         \group_begin:%
265             \IfNoValueF {##1}{%
266                 { \chemmacrosmacros_set_keys:nn {particles} {##1} }%
267                 \use:c {__chemmacrosmacros_ \chemmacrosmacros_remove_backslash:N #1:}%
268             \group_end:%
269             \end{ lateximage }%
270     }
271 }
272
273 \RenewChemNucleophile \Nuc {Nu}
274 \RenewChemNucleophile \ba {ba}
275
276 }{}% \@ifchemmacrosmoduleloaded
277 }% AtBeginDocument
```

§ 177.9 Phases

```
278 \AtBeginDocument{
279 \@ifchemmacrosmoduleloaded{phases}%
280 \PackageInfo{lwarp}{Patching~chemmacrosmodule~phases}
281
282 \cs_undefine:N \chemmacrosmacros_phase:n
283 \cs_new_protected:Npn \chemmacrosmacros_phase:n #1
284 {
285     \mode_leave_vertical:
286     \bool_if:NTF \l__chemmacrosmacros_phases_sub_bool
287     {
288         \ifnumequal{\value{LWR@lateximagedepth}}{0}
```

```
289      {
290          \textsubscript{ (#1) }
291      }
292      {
293          \chemformula_subscript:n { (#1) }
294      }
295      }
296      {
297          \skip_horizontal:N \l__chemmacros_phases_space_dim
298          \chemmacros_text:n { (#1) }
299      }
300  }
301
302 }{}% \ifchemmacrosmoduleloaded
303 }% AtBeginDocument
```

§ 177.10 Mechanisms

```
304 \AtBeginDocument{
305 \@ifchemmacrosmoduleloaded{mechanisms}%
306 \PackageInfo{lwarp}{Patching~chemmacros~module~mechanisms}
307
308 \chemmacros_define_keys:nn {textmechanisms}
309  {
310     type .choice: ,
311     type / .code:n =
312     {
313         \__chemmacros_set_mechanisms:nnn { S }
314         {
315             \textsubscript{N}
316         }
317         { }
318     } ,
319     type / 1 .code:n =
320     {
321         \__chemmacros_set_mechanisms:nnn { S }
322         {
323             \textsubscript{N}
324             1
325         }
326         { }
327     } ,
328     type / 2 .code:n =
329     {
330         \__chemmacros_set_mechanisms:nnn { S }
331         {
332             \textsubscript{N}
333             2
334         }
335         { }
336     } ,
337     type / se .code:n =
338     {
339         \__chemmacros_set_mechanisms:nnn { S }
340         {
341             \textsubscript{E}
```

```
342         }
343         {
344     } ,
345     type / 1e .code:n    =
346     {
347         \__chemmacros_set_mechanisms:nnn { S }
348         {
349             \textsubscript{E}
350             1
351         }
352         {
353     } ,
354     type / 2e .code:n    =
355     {
356         \__chemmacros_set_mechanisms:nnn { S }
357         {
358             \textsubscript{E}
359             2
360         }
361         {
362     } ,
363     type / ar .code:n   =
364     {
365         \__chemmacros_set_mechanisms:nnn { S }
366         {
367             \textsubscript{E}
368         }
369         { Ar - }
370     } ,
371     type / e .code:n    =
372     { \__chemmacros_set_mechanisms:nnn { E } { } { } } ,
373     type / e1 .code:n   =
374     { \__chemmacros_set_mechanisms:nnn { E } { 1 } { } } ,
375     type / e2 .code:n   =
376     { \__chemmacros_set_mechanisms:nnn { E } { 2 } { } } ,
377     type / cb .code:n   =
378     {
379         \__chemmacros_set_mechanisms:nnn { E }
380         {
381             1
382             \textsubscript{cb}
383         }
384         {
385     } ,
386     type      .default:n =
387 }
388
389 \cs_gset_protected:Npn \chemmacros_mechanisms:n #1
390 {
391     \tl_if_blank:nTF {#1}
392     { \chemmacros_set_keys:nn {textmechanisms} { type } }
393     { \chemmacros_set_keys:nn {textmechanisms} { type = #1 } }
394     \mbox
395     {
396         \tl_use:N \l__chemmacros_mechanisms_ar_tl
```

```

397      \tl_use:N \l_chemmacros_mechanisms_type_tl
398      \tl_use:N \l_chemmacros_mechanisms_mol_tl
399    }
400  }
401
402 \appto\LWR@restoreorigformatting{%
403 \cs_set_protected:Npn \chemmacros_mechanisms:n #1%
404 {%
405   \tl_if_blank:nTF {#1}%
406   { \chemmacros_set_keys:nn {mechanisms} { type } }%
407   { \chemmacros_set_keys:nn {mechanisms} { type = #1 } }%
408 \mbox{%
409   {%
410     \tl_use:N \l_chemmacros_mechanisms_ar_tl%
411     \tl_use:N \l_chemmacros_mechanisms_type_tl%
412     \tl_use:N \l_chemmacros_mechanisms_mol_tl%
413   }%
414 }%
415 }%
416
417 }{ }% \@ifchemmacrosmoduleloaded
418 }% AtBeginDocument

```

§ 177.11 Newman

```

419 \AtBeginDocument{
420 \@ifchemmacrosmoduleloaded{newman}{%
421 \PackageInfo{lwarp}{Patching~chemmacros~module~newman}}
422
423 \RenewDocumentCommand \newman {o}{%
424 {
425   \IfValueTF{#2}{%
426     {\begin{ lateximage }[\textbackslash newman{#2}\{\#3\}]*}
427     {\begin{ lateximage }[\textbackslash newman\{\#3\}]*}
428   \group_begin:%
429     \IfNoValueF {#1}{ \chemmacros_set_keys:nn {newman} {#1} }%
430     \IfNoValueTF {#2}{%
431       { \chemmacros_newman:nn { } {#3} }%
432       { \chemmacros_newman:nn {#2} {#3} }%
433     \group_end:%
434     \end{ lateximage }%
435   }%
436
437 }{ }% \@ifchemmacrosmoduleloaded
438 }% AtBeginDocument

```

§ 177.12 Orbital

```

439 \AtBeginDocument{
440 \@ifchemmacrosmoduleloaded{orbital}{%
441 \PackageInfo{lwarp}{Patching~chemmacros~module~orbital}}
442
443 \RenewDocumentCommand \orbital {o}{%
444 {
445   \IfValueTF{#1}{%

```

```

446      {
447          \begin{ lateximage } [%
448              \textbackslash orbital{[]}\LWR@HTMLsanitize{#1}{[]}\{#2\}%
449          ]*[[] [margin-left: 1em ; margin-right: 1em]
450      }
451      {
452          \begin{ lateximage } [%
453              \textbackslash orbital\{#2\}%
454          ]*[[] [margin-left: 1em ; margin-right: 1em]
455      }
456      \group_begin:
457          \chemmacros_set_keys:nn {orbital/type} {#2}
458          \IfNoValueTF {#1}
459              { \chemmacros_orbital:n { } }
460              { \chemmacros_orbital:n {#1} }
461      \group_end:
462      \end{ lateximage }
463  }
464
465 }{}% \@ifchemmacrosmoduleloaded
466 }% AtBeginDocument

```

§ 177.13 Reactions

```

\chemmacros_declare_reaction_env {<chem>} {<math>} {<args number>} {<argument list (#2){#3}...>}

467 \AtBeginDocument{
468 \@ifchemmacrosmoduleloaded{reactions}%
469 \PackageInfo{l warp}{Patching~chemmacros~module~reactions}
470
471 \cs_gset_protected:Npn \chemmacros_declare_reaction_env:nnnn #1#2#3#4
472 {
473     \exp_args:Nnx \DeclareDocumentEnvironment {#1} { O{} \prg_replicate:nn {#3+0} {m} }
474     {
475         \boolfalse{mathjax}%                                         l warp
476         \ifdefvoid{\LWR@ThisAltText}{%                         l warp
477             \ThisAltText{-chemmacros-~reaction}%
478         }{}%                                         l warp
479         \chemmacros_add_reaction_description:n {##1}
480         \__chemmacros_begin_reaction:
481         \chemmacros_reaction_read:nw {#2} {#4}
482     }
483     {
484         \__chemmacros_end_reaction:
485         \gdef\LWR@ThisAltText{}%                           l warp
486     }
487 }
488 \cs_generate_variant:Nn \chemmacros_declare_reaction_env:nnnn {nnnV}
489
490 \RenewChemReaction {reaction} {equation}
491 \RenewChemReaction {reaction*} {equation*}
492 \RenewChemReaction {reactions} {align}
493 \RenewChemReaction {reactions*} {align*}
494
495 }{}% \@ifchemmacrosmoduleloaded

```

496 }% AtBeginDocument

§ 177.14 Redox

```

497 \AtBeginDocument{
498 \@ifchemmacrosmoduleloaded{redox}{

499 \PackageInfo{lwarp}{Patching~chemmacros~module~redox}

500 \NewDocumentCommand \LWR@chemmacros@ox { s m }{\SplitArgument{1}{,}{m}}
501   {
502     \IfBooleanTF {#1}
503       { \chemmacros_ox:nnnn {#1} {#2} #3 }
504       { \chemmacros_ox:nnnn { } {#2} #3 }
505     }
506   }

507 \RenewDocumentCommand \ox { s O{} m }{
508   {
509     \begingroup
510     \boolfalse{mathjax}
511     \IfBooleanTF {#1}
512       {
513         \LWR@subsingle$*{%
514           \LWR@subsingle$*{yes hash}
515           \textbackslash{}ox*\{\LWR@HTMLsanitize{#3}\}}%
516         }{%
517           star \protect\LWR@HTMLsanitize{\detokenize\expandafter{#2}}%
518         }{%
519           \LWR@chemmacros@ox* {#2} {#3}% contents
520         }%
521       }
522     {
523       \LWR@subsingle$*{%
524         \textbackslash{}ox*\{\LWR@HTMLsanitize{#3}\}}%
525       }{%
526         \protect\LWR@HTMLsanitize{\detokenize\expandafter{#2}}%
527       }{%
528         \LWR@chemmacros@ox {#2} {#3}% contents
529       }%
530     }
531     \endgroup
532   }
533 }{ }% \@ifchemmacrosmoduleloaded
534 }% AtBeginDocument

```

§ 177.15 Scheme

Fix for chemmacros as of v5.8b, when using newfloat and babel:

```

536 \AtBeginDocument{
537 \@ifchemmacrosmoduleloaded{scheme}{

538 \PackageInfo{lwarp}{Patching~chemmacros~module~scheme}

539 \ifdefstring{\schemename}{los}{

540 \SetupFloatingEnvironment{scheme}{

541 name = \chemmacros_translate:n {scheme-name}

```

```
543 }
544 }{ }
545
546 }{ }% \@ifchemmacrosmoduleloaded
547 }% AtBeginDocument
```

§ 177.16 Spectroscopy

```
548 \AtBeginDocument{
549 \@ifchemmacrosmoduleloaded{spectroscopy}{%
550 \PackageInfo{lwarp}{Patching\chemmacrosmodule\spectroscopy}}
551
552 \ChemCompatibilityTo{5.8}
553 \cs_gset_protected:Npn \__chemmacrosnmr_base:nn #1#2
554 {
555     \tl_if_blank:VF \g__chemmacrosnmr_element_coupled_tl
556     {
557         \tl_put_left:Nn \g__chemmacrosnmr_element_coupled_tl { \{ }
558         \tl_put_right:Nn \g__chemmacrosnmr_element_coupled_tl { \} }
559     }
560     \tl_put_left:Nn \g__chemmacrosnmr_element_coupled_tl {#2}
561 %     \chemmacroscchemformula:n { ^{#1} }
562     \textsuperscript{#1}
563     \bool_if:NTF \l__chemmacrosnmr_parse_bool
564     { \chemformula_ch:nV {} \g__chemmacrosnmr_element_coupled_tl }
565     { \chemmacroscchemformula:V \g__chemmacrosnmr_element_coupled_tl }
566     \tl_use:N \l__chemmacrosnmr_element_method_connector_tl
567     \tl_use:N \l__chemmacrosnmr_method_tl
568 }
569 \EndChemCompatibility
570 \ChemCompatibilityFrom{5.8}
571 \cs_gset_protected:Npn \__chemmacrosnmr_base:nn #1#2
572 {
573     \group_begin:
574         \tl_use:N \l__chemmacrosnmr_base_format_tl
575         \tl_if_blank:VF \g__chemmacrosnmr_element_coupled_tl
576         {
577             \tl_put_left:Nn \g__chemmacrosnmr_element_coupled_tl { \{ }
578             \tl_put_right:Nn \g__chemmacrosnmr_element_coupled_tl { \} }
579         }
580         \tl_put_left:Nn \g__chemmacrosnmr_element_coupled_tl {#2}
581 %         \chemmacroscchemformula:n { ^{#1} }
582         \textsuperscript{#1}
583         \tl_if_blank:VF \g__chemmacrosnmr_element_coupled_tl
584         {
585             \bool_if:NTF \l__chemmacrosnmr_parse_bool
586             { \chemformula_ch:nV {} \g__chemmacrosnmr_element_coupled_tl }
587             { \chemmacroscchemformula:V \g__chemmacrosnmr_element_coupled_tl }
588         }
589         \tl_use:N \l__chemmacrosnmr_element_method_connector_tl
590         \tl_use:N \l__chemmacrosnmr_method_tl
591     \group_end:
592 }
593 \EndChemCompatibility
594
```

```
595
596 \cs_gset_protected:Npn \chemmacros_nmr_position:n #1
597 {
598     \chemmacros_chemformula:x
599     {
600         \exp_not:V \g_chemmacros_nmr_element_tl
601         \bool_if:NF \l_chemmacros_nmr_position_side_bool
602         {
603             \tl_if_eq:NnTF \l_chemmacros_nmr_position_tl {^}% lwarp
604             { \textsuperscript{\exp_not:n { #1 } } }% lwarp
605             { \textsubscript{\exp_not:n { #1 } } }% lwarp
606 %             \exp_not:V \l_chemmacros_nmr_position_tl
607 %             \exp_not:n { #1 }
608         }
609     }
610     \bool_if:NT \l_chemmacros_nmr_position_side_bool
611     {
612         \tl_use:N \l_chemmacros_nmr_position_tl
613         \__chemmacros_nmr_position:n {#1}
614     }
615 }
616
617 \cs_gset_protected:Npn \__chemmacros_nmr_coupling:w (#1;#2)
618 {
619     \tl_set:Nn \l_chemmacros_nmr_coupling_bonds_tl
620     {
621         \l_chemmacros_nmr_coupling_bonds_pre_tl
622         #1
623         \l_chemmacros_nmr_coupling_bonds_post_tl
624     }
625     \bool_if:NTF \l_chemmacros_nmr_coupling_nuclei_sub_bool
626     {
627         \tl_set:Nn \l_chemmacros_nmr_coupling_nuclei_tl
628         {
629 %             \c_math_subscript_token
630             \textsubscript{#1} lwarp
631             {
632                 \l_chemmacros_nmr_coupling_nuclei_pre_tl
633                 \chemmacros_chemformula:n {#2}
634                 \l_chemmacros_nmr_coupling_nuclei_post_tl
635             }
636         }
637     }
638     {
639         \tl_set:Nn \l_chemmacros_nmr_coupling_nuclei_tl
640         {
641             \l_chemmacros_nmr_coupling_nuclei_pre_tl
642             \chemmacros_chemformula:n {#2}
643             \l_chemmacros_nmr_coupling_nuclei_post_tl
644         }
645     }
646     \__chemmacros_nmr_coupling_aux_i:w
647 }
648 \AfterEndPreamble{%
649 % \NMR{<num>,<elem>}(<num>,<unit>) [<solvent>] ALL arguments are optional}
```

```
650 % \NMR* same but without ": $delta$" at end
651 \cs_gset_protected:Npn \chemmacros_nmr:nnnn #1#2#3#4
652   {
653     \bool_if:NT \l__chemmacros_nmr_list_bool { \item \scan_stop: }
654     \group_begin:
655
655       \mode_leave_vertical:
656
656       \bool_set_false:N \l__chemmacros_nmr_frequency_bool
657       \bool_set_false:N \l__chemmacros_nmr_solvent_bool
658       \tl_if_empty:nF {#3}
659       { \bool_set_true:N \l__chemmacros_nmr_frequency_bool }
660       \tl_if_empty:nF {#4}
661       { \bool_set_true:N \l__chemmacros_nmr_solvent_bool }
662       \bool_if:nT
663       {
664         \l__chemmacros_nmr_frequency_bool
665         ||
666         \l__chemmacros_nmr_solvent_bool
667       }
668       { \bool_set_true:N \l__chemmacros_nmr_delimiters_bool }
669       \bool_if:nT
670       {
671         \l__chemmacros_nmr_frequency_bool
672         &&
673         \l__chemmacros_nmr_solvent_bool
674       }
675       { \bool_set_true:N \l__chemmacros_nmr_comma_bool }
676       \tl_if_empty:nTF {#2}
677       {
678         \__chemmacros_nmr_nucleus:VV
679         \l__chemmacros_nmr_isotope_default_tl
680         \l__chemmacros_nmr_element_default_tl
681       }
682       { \__chemmacros_nmr_nucleus:w #2 \q_stop }
683       \mode_if_math:TF
684       {
685         \text
686         {
687           \group_begin:
688             \tl_use:N \l__chemmacros_nmr_format_tl
689 \LWR@textcurrentcolor{\LWR@textcurrentfont{%
690             \__chemmacros_nmr_base:VV
691             \g__chemmacros_nmr_isotope_tl
692             \g__chemmacros_nmr_element_tl
693             \bool_if:NT \l__chemmacros_nmr_delimiters_bool
694               { ~ ( }
695             \bool_if:NT \l__chemmacros_nmr_frequency_bool
696               { \__chemmacros_nmr_frequency:n {#3} }
697             \bool_if:NT \l__chemmacros_nmr_comma_bool
698               { , ~ }
699             \bool_if:NT \l__chemmacros_nmr_solvent_bool
700               { \chemmacros_chemformula:n {#4} }
701             \bool_if:NT \l__chemmacros_nmr_delimiters_bool
702               { ) } }
```

```
703          \tl_if_blank:nT {\#1} {::~}
704 }% lwarp
705         \group_end:
706     }
707     \tl_if_blank:nT {\#1}
708     {
709         \delta
710         \text{ \l_chemmacros_nmr_delta_tl }
711         \bool_if:NT \l_chemmacros_nmr_use_equal_bool {~=}
712     }
713 }
714 {
715     \group_begin:
716     \tl_use:N \l_chemmacros_nmr_format_tl
717 \LWR@textcurrentcolor{\LWR@textcurrentfont{%
718     \l_chemmacros_nmr_base:VV
719         \g_chemmacros_nmr_isotope_tl
720         \g_chemmacros_nmr_element_tl
721         \bool_if:NT \l_chemmacros_nmr_delimiters_bool
722             {~()}
723         \bool_if:NT \l_chemmacros_nmr_frequency_bool
724             { \l_chemmacros_nmr_frequency:n {\#3} }
725         \bool_if:NT \l_chemmacros_nmr_comma_bool
726             {,~}
727         \bool_if:NT \l_chemmacros_nmr_solvent_bool
728             {
729                 \bool_if:NTF \l_chemmacros_nmr_parse_bool
730
731                     { \chemformula_ch:nn { } {\#4} }% original
732                     {\ch{\#4}}% lwarp
733                     {\#4}
734                 }
735             \bool_if:NT \l_chemmacros_nmr_delimiters_bool
736             {}
737 }% lwarp
738     \tl_if_blank:nT {\#1} {:}
739     \group_end:
740     \tl_if_blank:nT {\#1}
741     {
742         \tl_use:N \c_space_tl
743         \c_math_toggle_token
744         \delta
745         \c_math_toggle_token
746         \l_chemmacros_nmr_delta_tl
747         \bool_if:NT \l_chemmacros_nmr_use_equal_bool {~=}
748     }
749     \group_end:
750 }
751 }% AfterEndPreamble
752
753
754 \RenewDocumentCommand \chemmacros_data:w { smo }
755 {
756     \bool_if:NT \l_chemmacros_nmr_list_bool { \item }
```

```

757      {
758 %       \tl_use:N \l__chemm macros_nmr_format_tl #2
759       \tl_use:N \l__chemm macros_nmr_format_tl
760       \LWR@textcurrentcolor{\LWR@textcurrentfont{\% lwarp
761           #2
762           \IfNoValueF {\#3} { ~ ( #3 ) }
763           \IfBooleanT {\#1} { \bool_if:NT \l__chemm macros_nmr_use_equal_bool { : } }
764       }% lwarp
765     }
766     \IfBooleanF {\#1} { \bool_if:NT \l__chemm macros_nmr_use_equal_bool { ~ = } }
767   }
768
769 }{}% @ifchemm macrosmoduleloaded
770 }% AtBeginDocument

```

§ 177.17 Thermodynamics

```

771 \AtBeginDocument{
772 @ifchemm macrosmoduleloaded{thermodynamics}{%
773 \PackageInfo{lwarp}{Patching~chemm macros~module~thermodynamics}
774
775 \cs_gset_protected:Npn \chemm macros_state:nn #1#2
776  {
777   \group_begin:
778   \boolfalse{mathjax}
779   \chemm macros_set_keys:nn {thermodynamics} {\#1}
780   \LWR@subsingle dollar*{\% yes hashing
781       \textbackslash state{\LWR@HTMLsanitize{\#2}\% alt
782   }{\%
783       chemm macros_state% add'l hashing
784       #1% options
785       LSP \tl_use:N \l__chemm macros_state_sp_left_tl% super/subscripts
786       LSB \tl_use:N \l__chemm macros_state_sb_left_tl
787       RSP \tl_use:N \l__chemm macros_state_sp_right_tl
788       RSB \tl_use:N \l__chemm macros_state_sb_right_tl
789   }
790   {
791     \LWR@origensuredmath{
792       \chemm macros_text:V \l__chemm macros_state_pre_tl
793       \c_math_superscript_token
794       { \chemm macros_text:V \l__chemm macros_state_sp_left_tl }

```

Only add the subscripts if they are being used. This avoids causing an incorrect depth, as the empty subscript will be measured by TeX but cropped out by *pdfcrop*.

```

795   \tl_if_empty:NTF \l__chemm macros_state_sb_left_tl
796   {}
797   {
798     \c_math_subscript_token
799     { \chemm macros_text:V \l__chemm macros_state_sb_left_tl }
800   }
801   #2
802   \c_math_superscript_token
803   { \chemm macros_text:V \l__chemm macros_state_sp_right_tl }
804   \tl_if_empty:NTF \l__chemm macros_state_sb_right_tl

```

```

805      {}
806      {
807          \c_math_subscript_token
808          { \chemmacros_text:V \l_chemmacros_state_sb_right_tl }
809      }
810      \chemmacros_text:V \l_chemmacros_state_post_tl
811      }
812      }
813      \group_end:
814  }
815 \cs_generate_variant:Nn \chemmacros_state:nn { nV }
816
817 \cs_gset_protected:Npn \chemmacros_declare_state:Nn #1#2
818  {
819      \chemmacros_define_keys:xn
820      {thermodynamics/\chemmacros_remove_backslash:N #1}
821      {
822          pre           .meta:nn = {chemmacros/thermodynamics} { pre = ##1 } ,
823          post          .meta:nn = {chemmacros/thermodynamics} { post = ##1 } ,
824          superscript-left .meta:nn = {chemmacros/thermodynamics} { superscript-left = ##1 } ,
825          superscript-right .meta:nn = {chemmacros/thermodynamics} { superscript-right = ##1 } ,
826          superscript     .meta:n  = { superscript-right = ##1 } ,
827          subscript-left .meta:nn = {chemmacros/thermodynamics} { subscript-left = ##1 } ,
828          subscript-right .meta:nn = {chemmacros/thermodynamics} { subscript-right = ##1 } ,
829          subscript       .meta:n  = { subscript-left = ##1 } ,
830          subscript-pos   .choices:nn =
831              { left , right }
832              { \tl_set_eq:NN \l_chemmacros_state_sb_pos_tl \l_keys_choice_tl } ,
833          symbol         .tl_set:N = \l_chemmacros_state_symbol_tl ,
834          unit           .tl_set:N = \l_chemmacros_state_unit_tl
835      }
836      \DeclareDocumentCommand #1 { sO{}D(){}m }
837      {
838          \group_begin:
839          \chemmacros_set_keys:xn
840          {thermodynamics/\chemmacros_remove_backslash:N #1}
841          {##2}
842          \tl_if_blank:nF {##3}
843          {
844              \chemmacros_set_keys:nx {thermodynamics}
845              { subscript-\l_chemmacros_state_sb_pos_tl = \exp_not:n {##3} }
846          }
847          \chemmacros_state:nV {##2} \l_chemmacros_state_symbol_tl
848          \chemmacros_set_keys_groups:nnn {thermodynamics} {variables} {##2}
849          \IfBooleanF {##1} { = ~ \SI {##4} { \l_chemmacros_state_unit_tl } }
850          \group_end:
851      }
852  }

```

The pre-existing macros are redefined with the new definition:

```

853 \RenewChemState \enthalpy { symbol = H , unit = \kilo\joule\per\mole }
854 \RenewChemState \entropy { symbol = S , unit = \joule\per\kelvin\per\mole , pre = }
855 \RenewChemState \gibbs    { symbol = G , unit = \kilo\joule\per\mole }
856

```

```
857 }{ }% \@ifchemmacrosmoduleloaded  
858 }% AtBeginDocument  
859 \ExplSyntaxOff
```

File 78 l warp-chemnum.sty**§ 178 Package chemnum**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

Pkg chemnum chemnum is patched for use by l warp.

for HTML output:

```
1 \LWR@ProvidesPackagePass{chemnum}[2016/04/14]  
  
2 \ExplSyntaxOn  
3  
4 \cs_gset_protected:Npn \chemnum_compound_write:n #1  
5 {  
6     \chemnum_get_compound_property:nn {#1} {pre-main-label-code}  
7     \group_begin:  
8         \bool_if:NTF \l_chemnum_compound_local_bool  
9             { \l_chemnum_local_label_format_tl }  
10            { \chemnum_get_compound_property:nn {#1} {label-format} }  
11    {  
12        \LWR@textcurrentfont{  
13            \chemnum_get_compound_property:nn {#1} {counter-representation}  
14        }  
15    }  
16    \group_end:  
17    \chemnum_get_compound_property:nn {#1} {post-main-label-code}  
18 }  
19  
20 \cs_gset_protected:Npn \chemnum_subcompound_write:nn #1#2  
21 {  
22     \group_begin:  
23         \bool_if:NTF \l_chemnum_compound_local_bool  
24             { \l_chemnum_local_label_format_tl }  
25             { \chemnum_get_compound_property:nn {#1} {label-format} }  
26    {  
27        \LWR@textcurrentfont{  
28            \chemnum_get_subcompound_property:nnn {#1} {#2}  
29            {counter-representation}  
30        }  
31    }  
32    \group_end:  
33 }  
34  
35 \ExplSyntaxOff
```

File 79 l warp-chkfloat.sty**§ 179 Package chkfloat**

Pkg chkfloat chkfloat is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{chkfloat}[2012/08/19]

File 80 l warp-chngpage.sty**§ 180 Package chngpage**

(Emulates or patches code by PETER WILSON.)

Pkg chngpage chngpage is ignored.

for HTML output: Discard all options for l warp-chngpage:

1 \LWR@ProvidesPackageDrop{chngpage}[2009/10/20]
2 \LWR@origRequirePackage{l warp-changepage}

File 81 l warp-cite.sty**§ 181 Package cite**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg cite cite is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{cite}[2015/02/27]

For the [super] option, the \kern must be removed:

```
2 \def\LWRCT@biblabel#1{\@citess{#1}\kern-\labelsep,}  
3  
4 \ifdef\strequal{\@biblabel}{\LWRCT@biblabel}  
5 {  
6   \def\@biblabel#1{\@citess{#1}}  
7 }{}
```

For the [super] option, \textsuperscript is used instead of math superscript:

```
8 \def\@citess#1{\textsuperscript{#1}}  
9  
10 \DeclareDocumentCommand\citeref{}{\relax}
```

File 82 **l warp-CJK.sty**

§ 182 Package **CJK**

Pkg CJK CJK does not work with l warp unless called from ctex.

for HTML output:

```
1 \@ifpackageloaded{xeCJK}{}{  
2     \LWR@loadnever{CJK}{ctex, xeCJK}  
3 }  
4  
5 \LWR@ProvidesPackagePass{CJK}[2015/04/18]
```

File 83 **l warp-CJKutf8.sty**

§ 183 Package **CJKutf8**

Pkg CJKutf8 CJKutf8 does not work with l warp unless called from ctex.

for HTML output:

```
1 \@ifpackageloaded{xeCJK}{}{  
2     \LWR@loadnever{CJKutf8}{ctex, xeCJK}  
3 }  
4  
5 \LWR@ProvidesPackagePass{CJKutf8}[2015/04/18]
```

File 84 **l warp-clrdblpq.sty**

§ 184 Package **clrdblpq**

Pkg clrdblpq clrdblpq is ignored.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{clrdblpq}[2018/04/21]
```

File 85 **l warp-cmdtrack.sty**

§ 185 Package **cmdtrack**

Pkg cmdtrack cmdtrack is ignored.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{cmdtrack}[2012/12/18]
```

```
2 \newcommand{\untrack}{\relax}
```

File 86 l warp-colonequals.sty**§ 186 Package colonequals**

(Emulates or patches code by HEIKO OBERDIEK.)

Pkg colonequals colonequals is used as-is for SVG math, and is emulated for MATHJAX.

Since UNICODE symbols are not available for each of the following, only two are used for the single and double colons, and the other symbols are derived in a consistent manner. Occasional negative space is added as well. This may need to be undone for some fonts.

for HTML output: 1 \LWR@ProvidesPackagePass{colonequals}[2016/05/16]

```
2 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{colonequals}
4
5 \CustomizeMathJax{\newcommand{\ratio}{\unicode{x2236}}}
6 \CustomizeMathJax{\newcommand{\coloncolon}{\unicode{x2237}}}
7 \CustomizeMathJax{\newcommand{\colonequals}{\coloncolon=}}
8 \CustomizeMathJax{\newcommand{\coloncolonequals}{\coloncolon=}}
9 \CustomizeMathJax{\newcommand{\equalscolon}{=\!\ratio}}
10 \CustomizeMathJax{\newcommand{\equalscoloncolon}{=\!\coloncolon}}
11 \CustomizeMathJax{\newcommand{\colonminus}{\ratio-}}
12 \CustomizeMathJax{\newcommand{\coloncolonminus}{\coloncolon-}}
13 \CustomizeMathJax{\newcommand{\minuscolon}{-\ratio}}
14 \CustomizeMathJax{\newcommand{\minuscoloncolon}{-\coloncolon}}
15 \CustomizeMathJax{\newcommand{\colonapprox}{\ratio\approx}}
16 \CustomizeMathJax{\newcommand{\coloncolonapprox}{\coloncolon\approx}}
17 \CustomizeMathJax{\newcommand{\approxcolon}{\approx\!\ratio}}
18 \CustomizeMathJax{\newcommand{\approxcoloncolon}{\approx\!\coloncolon}}
19 \CustomizeMathJax{\newcommand{\colonsim}{\ratio\sim}}
20 \CustomizeMathJax{\newcommand{\coloncolonsim}{\coloncolon\sim}}
21 \CustomizeMathJax{\newcommand{\simcolon}{\sim\!\ratio}}
22 \CustomizeMathJax{\newcommand{\simcoloncolon}{\sim\!\coloncolon}}
23 \end{warpMathJax}
```

File 87 l warp-color.sty**§ 187 Package color**

Pkg color Allowed but ignored. xcolor is then required as well.

color is superceded by xcolor, and l warp requires several of the features of xcolor. When color is requested, xcolor is loaded as well.

for HTML output: 1 \LWR@ProvidesPackageDrop{color}[2016/07/10]
2 \RequirePackage{xcolor}

File 88 l warp-colortbl.sty**§ 188 Package colortbl**

Pkg colortbl colortbl is used as-is for print output, and emulated for HTML.

⚠ **row/color** Only use `\rowcolor` and `\cellcolor` at the start of a row, in that order.
colortbl ignores the overhang arguments.

for HTML output: A placeholder definition is forgotten first:

```
1 \let\rowcolor\relax
2
3 \LWR@ProvidesPackagePass{colortbl}[2018/12/12]
```

The following `\LWR@HTML` versions are used inside an HTML tabular.

`\columncolor` [*<model>*] [*<color>*] [*<left overhang>*] [*<right overhang>*]
`\LWR@getmynexttoken` is not used here because `\columncolor` is not used inside the data area of the tabular.

```
4 \NewDocumentCommand{\LWR@HTML@columncolor}{O{named} m o o}{%
5   \convertcolorspec{#1}{#2}{HTML}\LWR@columnHTMLcolor%
6   \LWR@addtabularcellcolor%
7 }
8
9 \AtBeginDocument{\LWR@formatted{columncolor}}
```

`\LWR@getmynexttoken` is used for `\rowcolor` because it is used inside the data area of the tabular.

`\rowcolor` [*<model>*] [*<color>*] [*<left overhang>*] [*<right overhang>*]
10 `\NewDocumentCommand{\LWR@HTML@rowcolor}{O{named} m o o}{%`
11 `\convertcolorspec{#1}{#2}{HTML}\LWR@rowHTMLcolor%`
12 `\LWR@getmynexttoken%`
13 }
14
15 `\AtBeginDocument{\LWR@expandableformatted{rowcolor}}`

`\cellcolor` [*<model>*] [*<color>*] [*<left overhang>*] [*<right overhang>*]
16 `\NewDocumentCommand{\LWR@HTML@cellcolor}{O{named} m o o}{%`
17 `\convertcolorspec{#1}{#2}{HTML}\LWR@cellHTMLcolor%`
18 `\LWR@addtabularcellcolor%`
19 }
20
21 `\AtBeginDocument{\LWR@formatted{cellcolor}}`

\arrayrulecolor [⟨model⟩] {⟨color⟩}

The HTML version for use outside a tabular. Inside a tabular, \LWR@HTML@arrayrulecolornexttoken is used instead.

```
22 \newcommand{\LWR@HTML@arrayrulecolor}[2][named]{%
23   \convertcolorspec{#1}{#2}{HTML}\LWR@ruleHTMLcolor%
24 }
25
26 \AtBeginDocument{\LWR@expandableformatted{arrayrulecolor}}
```

[⟨model⟩] {⟨color⟩}

The HTML version for use inside a tabular.

```
27 \newcommand{\LWR@HTML@arrayrulecolornexttoken}[2][named]{%
28   \convertcolorspec{#1}{#2}{HTML}\LWR@ruleHTMLcolor%
29   \LWR@getmynexttoken%
30 }
31
32 \AtBeginDocument{\LWR@expandableformatted{arrayrulecolornexttoken}}
```

\doublerulesepcolor [⟨model⟩] {⟨color⟩}

The version for use outside a tabular.

```
33 \newcommand{\LWR@HTML@doublerulesepcolor}[2][named]{}
34
35 \AtBeginDocument{\LWR@expandableformatted{doublerulesepcolor}}
```

[⟨model⟩] {⟨color⟩}

The version for use inside a tabular.

```
36 \newcommand{\LWR@HTML@doublerulesepcolornexttoken}[2][named]{\LWR@getmynexttoken}
37
38 \AtBeginDocument{\LWR@expandableformatted{doublerulesepcolornexttoken}}
```

File 89 lwarp-continue.sty

§ 189 Package **continue**

Pkg continue **continue** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{continue}][2018/12/09]

```
2 \newcommand*\{\flagcont}{}
3 \newcommand*\{\flagend}{}
4 \newcommand*\{\flagword}{}
5 \newcommand*\{\preflagword}{}
6 \newcommand*\{\postflagword}{}
7 \newlength\contsep
8 \newlength\contdrop
```

File 90 l warp-copyrightbox.sty**§ 190 Package copyrightbox**

(Emulates or patches code by THOMAS FISCHER, IVES VAN DER FLAAS.)

Pkg copyrightbox copyrightbox is emulated for use by l warp.

The entire copyright box is placed inside a <div> of class copyrightbox.

The contents are placed inside a <div> of class copyrightboxcontents.

The copyright notice is placed inside a <div> of class copyrightboxnote.

for HTML output: 1 \LWR@ProvidesPackageDrop{copyrightbox}[2011/11/27]

```
2 \newcommand{\copyrightbox}[3][r]{%
3 \begin{BlockClass}[
4   display: inline-flex;
5   flex-direction: column ;
6 ]{\copyrightbox}
7 \begin{BlockClass}{copyrightboxcontents}
8 #2
9 \end{BlockClass}
10 \begin{BlockClass}{copyrightboxnote}
11 #3
12 \end{BlockClass}
13 \end{BlockClass}
14 }
15
16 \newcommand{\CRB@setcopyrightfont}(){}
17 \newcommand{\CRB@setcopyrightparagraphstyle}{}

---


```

File 91 l warp-crop.sty**§ 191 Package crop**

(Emulates or patches code by MELCHIOR FRANZ.)

Pkg crop crop is ignored.

for HTML output: Discard all options for l warp-crop:

```
1 \LWR@ProvidesPackageDrop{crop}[2003/05/20]
2 \newcommand*\crop[1][]{}
3 \newcommand*\cropdef[6][]{}
```

File 92 **lwarf-ctable.sty**

§ 192 Package **ctable**

(Emulates or patches code by WYBO DEKKER.)

Pkg ctable ctable is patched for use by lwarf.

⚠ Misplaced alignment tab character & Use \StartDefiningTabulars before one or more \ctables, and \StopDefiningTabulars after. These change the meaning of the ampersand & character.

for HTML output: 1 \LWR@ProvidesPackagePass{ctable}[2015/10/17]

The following is in the original:

```

2 \newcommand{\LWR@HTML@ctable}[4][]{%
3   \let@\CTtaborfig\@dfldCTtaborfig
4   \let@\CTalign\@dfldCTalign
5   \let@\CTsideways\@dfldCTsideways
6   \let@\CTcontinued\empty
7   \let@\CTpos\@dfldCTpos
8   \let@\CTcaption\empty
9   \let@\CTcap\undefined
10  \let@\CTLabel\empty
11  \let@\CTbotcap\@dfldCTbotcap
12  \let@\CTstarred\@dfldCTstarred
13  \let@\CTsuper\@dfldCTsuper
14  \let@\CTnotespar\@dfldCTnotespar
15  \let@\CTdoinside\@dfldCTdoinside
16  \let@\CTbgopacity\@dfldCTbgopacity
17  \let@\CTframerule\@dfldCTframerule
18  \let@\CTcaptionskip\@dfldCTcaptionskip
19  \let@\CTframesep\@dfldCTframesep
20  \let@\CTwidth\@dfldCTwidth
21  \let@\CTmaxwidth\@dfldCTmaxwidth
22  \let@\CTmincapwidth\@dfldCTmincapwidth
23  \let@\CTfooterwidth\@dfldCTfooterwidth
24  \def@\CTfactual{@dfldCTframefg}%
25  \def@\CTbactual{@dfldCTframebg}%
26  \def@\CTbeg{\begin{@CTsideways\@CTtaborfig\@CTstarred}}%
27  \def@\CTbegin{@CTbeg}%
28  \def@\CTend{\end{@CTsideways\@CTtaborfig\@CTstarred}}%
29  \setkeys{CT}{#1}%
30  \ifx@\CTcap\undefined\let@\CTcap\@CTcaption\fi
31  \ifx@\CTcap\empty
32    \if@CTcaptionloaded\else
33      \PackageWarningNoLine{lwarf-ctable}{\MessageBreak
34        An empty cap= option prevents lot/loc entry only\MessageBreak
35        if the caption package is loaded!}
36    \fi
37  \fi

```

```

38   \if@CTinmemoir\else
39     \ifx\@CTbotcap\undefined
40       \PackageError{lwarf-ctable}{\MessageBreak
41         You can, currently, use the sidecap option only with\MessageBreak
42         memoir documents. Use topcap or botcap only}
43     \fi
44   \fi
45   \ifdim\@CTwidth=0pt\else
46     \ifdim\@CTmaxwidth=0pt\else
47       \PackageError{lwarf-ctable}{\MessageBreak
48         You may not use the width and maxwidth options together\MessageBreak
49         Use either width or maxwidth}
50     \fi
51   \fi
52   \ifx\@CTpos\empty
53     \ifx\@CTsideways\empty\else
54       \PackageError{lwarf-ctable}{\MessageBreak
55         You may not use the pos and sideways options together\MessageBreak
56         Rotated tables and figures are always typeset on a separate page}
57     \fi
58   \fi
59   \ifx\@CTcaption\empty
60     \ifx\@CTlabel\empty\else
61       \PackageError{lwarf-ctable}{\MessageBreak
62         You may not label a captionless table\MessageBreak
63         Such a label can't be referenced}
64     \fi
65   \fi

```

Some of the original, regarding computing the width of \CT@t, is removed here.

```

66   \@CTbegin
67   \ifx\@CTcontinued\empty\else\addtocounter{\@CTtaborfig}{-1}\fi
68   \@CTalign

```

lwarf's patches begin here:

```

69   \begin{center}
70     \setlength{\fboxrule}{\@CTframerule}
71     \setlength{\fboxsep}{\@CTframesep}
72     \LWR@forceminwidth{\fboxrule}%
73     \convertcolorspec[named]{\@CTbgactual}{HTML}\LWR@tempcolor%
74     \begin{BlockClass}[% lwarf
75       border:
76         \LWR@printlength{\LWR@atleastonept}
77         solid
78         \LWR@colorstyle[named]{\@CTfgactual} ; %
79         padding:\LWR@printlength{\fboxsep} ; %
80         \ifdefstring{\LWR@tempcolor}{FFFFFF}{}{%
81           background: \LWR@colorstyle[named]{\@CTbgactual} ; %
82         }%
83     ]{\fminipage}%
84     \ifx\@CTbotcap\@CTfalse\@CTCaption\vskip\@CTcaptionskip\fi
85     \ifx\@CTbotcap\undefined%
86       \begin{sidecaption}[\@CTcap]{\@CTcaption}[\@CTlabel]

```

```

87      \fi
88      \@CTdoinside
89      \begin{tabularx}{\linewidth}{#2}%
90          #4%
91      \end{tabularx}%           l warp
92      \def\@CTfootnotes{#3}%
93      \ifx#3\empty\else% append footnotes, if any
94          \begin{BlockClass}{tnotes}    l warp
95          #3
96          \end{BlockClass}%
97      }
98      \fi
99      \ifx\@CTbotcap\undefined\end{sidecaption}\fi
100     \ifx\@CTbotcap\@CTtrue\vskip\@CTcaptionskip\@CTCaption\fi
101     \end{BlockClass}
102     \end{center}
103 \end{CTend}
104 }
105 \LWR@formatted{ctable}

```

Required to properly detect the toprule:

```
106 \LetLtxMacro\FL\toprule
```

Table notes are redefined for HTML:

```

107 \newcommand{\LWR@HTML@tmark}[1][a]{%
108     \textsuperscript{\textrm{\textit{#1}}}}
109 }
110 \LWR@formatted{tmark}
111
112 \newcommand{\LWR@HTML@tnote}[2][a]{%
113     \tmark[#1]\,,#2\par
114 }
115 \LWR@formatted{tnote}

```

File 93 **l warp-cuted.sty**

§ 193 Package **cuted**

(Emulates or patches code by SIGITAS TOLUŠIS.)

Pkg cuted cuted is ignored.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{cuted}[2012/10/04]

2 \newenvironment{strip}{}{}
3 \newskip\stripsep
4 \def\oldcolsbreak#1{}

```

File 94 l warp-cutwin.sty

§ 194 Package **cutwin**

(Emulates or patches code by PETER WILSON AND ALAN HOENIG.)

Pkg cutwin cutwin is emulated.

for HTML output: Discard all options for l warp-cutwin:

```
1 \LWR@ProvidesPackageDrop{cutwin}[2010/09/29]

2 \newcommand*\opencutleft(){}
3 \newcommand*\opencutright(){}
4 \newcommand*\opencutcenter(){}
5 \newcommand*\cutfuzz(){}
6
7 \newenvironment{cutout}[4]
8 {\marginpar{\windowpagestuff}}
9 {}
10
11 \newcommand*\windowpagestuff{}
12
13 \newcommand*\pageinwindow(){}
14 % \begin{minipage}{.3\linewidth}
15 \windowpagestuff
16 % \end{minipage}
17 }
18
19 \newenvironment{shapedcutout}[3]
20 {\marginpar{\picinwindow}}
21 {}
22
23 \newcommand*\putstuffinpic){}
24
25 \newcommand*\picinwindow}{%
26 \begin{picture}(0,0)
27 \putstuffinpic
28 \end{picture}}
```

File 95 l warp-dblfloatfix.sty

§ 195 Package **dblfloatfix**

Pkg dblfloatfix dblfloatfix is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{dblfloatfix}[2012/12/31]

File 96 l warp-dblfnote.sty**§ 196 Package dblfnote**

(Emulates or patches code by HIROSHI NAKASHIMA.)

Pkg dblfnote dblfnote is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{dblfnote}[1999/07/14]

```
2 \newcounter{DFNsloppiness}
3 \newdimen\DFNcolumnsep
4 \newdimen\DFNcolumnwidth
5 \def\DFNallowcbreak{}
6 \def\DFNinhibitcbreak{}
7 \def\DFNtrysingle{}
8 \def\DFNalwaysdouble{}
9 \def\DFNruleboth{}
10 \def\DFNruleleft{}
```

File 97 l warp-dcolumn.sty**§ 197 Package dcolumn**

Pkg dcolumn dcolumn is emulated by the l warp core.

1 \LWR@ProvidesPackageDrop{dcolumn}[2014/10/28]

File 98 l warp-decimal.sty**§ 198 Package decimal**

(Emulates or patches code by A. SYROPOULOS AND R. W. D. NICKALLS.)

Pkg decimal decimal works as-is for SVG math, and is emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{decimal}[2011/06/03]

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\def\.{\mbox{.}}}
4 \end{warpMathJax}
```

File 99 **lwarf-diagbox.sty**

§ 199 Package **diagbox**

(Emulates or patches code by LEO LIU.)

Pkg diagbox diagbox is patched for use by lwarf.

for HTML output: 1 \LWR@ProvidesPackagePass{diagbox}[2016/12/28]

To restore print-mode inside a `lateximage`:

```

2 \LetLtxMacro{\LWR@origdiagbox@double}{\diagbox@double}
3 \LetLtxMacro{\LWR@origdiagbox@triple}{\diagbox@triple}
4
5 \appto{\LWR@restoreorigformatting}{%
6 \LetLtxMacro{\diagbox@double}{\LWR@origdiagbox@double}%
7 \LetLtxMacro{\diagbox@triple}{\LWR@origdiagbox@triple}%
8 }
```

```
\LWR@diagbox@AB {\langle E/W \rangle} {\langle A \rangle} {\langle E/W \rangle} {\langle B \rangle}
9 \newcommand{\LWR@diagbox@AB}[4]{%
10 \begingroup%
11 \LetLtxMacro{\\\newline}{%
12 \BlockClassSingle{\diagbox#1}{#2}%
13 \BlockClassSingle{\diagbox#3}{#4}%
14 \endgroup%
15 \LWR@stoppars%
16 }
```

```
\LWR@diagboxNW {\langle A \rangle} {\langle B \rangle}
17 \newcommand{\LWR@diagboxNW}[2]{%
18 \LWR@diagbox@AB{E}{#2}{W}{#1}%
19 }
```

Likewise for NE, SW, SE:

```

20 \newcommand{\LWR@diagboxNE}[2]{%
21 \LWR@diagbox@AB{W}{#1}{E}{#2}%
22 }
23
24 \let\LWR@diagboxSW\LWR@diagboxNE
25 \let\LWR@diagboxSE\LWR@diagboxNW
```

```
\diagbox@double {\langle keys \rangle} {\langle A \rangle} {\langle B \rangle}
26 \def\diagbox@double#1#2#3{%
```

```

27 \setkeys{diagbox}{dir=NW,#1}%
28 \@nameuse{LWR@diagbox\diagbox@dir}{#2}{#3}%
29 }

\LWR@diagboxTNW {⟨title⟩} {⟨A⟩} {⟨B⟩}

30 \newcommand{\LWR@diagboxTNW}[3]{%
31 \BlockClassSingle{diagboxtitleN}{#1}%
32 \LWR@diagboxNW{#2}{#3}%
33 }

```

Likewise for NE, SW, SE:

```

34 \newcommand{\LWR@diagboxTNE}[3]{%
35 \BlockClassSingle{diagboxtitleN}{#1}%
36 \LWR@diagboxNE{#2}{#3}%
37 }
38
39 \newcommand{\LWR@diagboxTSW}[3]{%
40 \LWR@diagboxSW{#2}{#3}%
41 \BlockClassSingle{diagboxtitleS}{#1}%
42 \LWR@stoppars%
43 }
44
45 \newcommand{\LWR@diagboxTSE}[3]{%
46 \LWR@diagboxSE{#2}{#3}%
47 \BlockClassSingle{diagboxtitleS}{#1}%
48 \LWR@stoppars%
49 }

```

```

\diagbox@triple {⟨keys⟩} {⟨A⟩} {⟨T⟩} {⟨B⟩}

50 \def\diagbox@triple#1#2#3#4{%
51 \setkeys{diagbox}{dir=NW,#1}%
52 \@nameuse{LWR@diagboxT\diagbox@dir}{#3}{#2}{#4}%
53 }

```

File 100 **lwarp-dingbat.sty**

§ 200 Package **dingbat**

(Emulates or patches code by SCOTT PAKIN.)

Pkg dingbat dingbat is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{dingbat}[2001/04/27]

```

2 \newcommand*\{\LWR@dingbatsymbol\}[1]{\HTMLunicode{#1}}
3
4 \newcommand{\LWR@HTML@rightpointright}{\LWR@dingbatsymbol{261E}}
5 \newcommand{\LWR@HTML@leftpointright}{\LWR@dingbatsymbol{261E}}
6 \newcommand{\LWR@HTML@leftthumbsdown}{\LWR@dingbatsymbol{1F44E}}

```

```

7 \newcommand{\LWR@HTML@leftthumbsup}{\LWR@dingbatsymbol{1F44D}}
8 \newcommand{\LWR@HTML@rightpointleft}{\LWR@dingbatsymbol{261C}}
9 \newcommand{\LWR@HTML@rightthumbsdown}{\LWR@dingbatsymbol{1F44E}}
10 \newcommand{\LWR@HTML@rightthumbsup}{\LWR@dingbatsymbol{1F44D}}
11 \newcommand{\LWR@HTML@squarewithdots}{\LWR@dingbatsymbol{25C7}}
12 \newcommand{\LWR@HTML@filledsquarewithdots}{\LWR@dingbatsymbol{25C6}}
13 \newcommand{\LWR@HTML@Sborder}{\LWR@dingbatsymbol{271A}}
14 \newcommand{\LWR@HTML@Zborder}{\LWR@dingbatsymbol{274B}}
15 \newcommand{\LWR@HTML@largepencil}{\LWR@dingbatsymbol{270E}}
16 \newcommand{\LWR@HTML@anchor}{\LWR@dingbatsymbol{2693}}
17 \newcommand{\LWR@HTML@carriagereturn}{\LWR@dingbatsymbol{23CE}}
18 \newcommand{\LWR@HTML@checkmark}{\LWR@dingbatsymbol{2713}}
19 \newcommand{\LWR@HTML@eye}{\LWR@dingbatsymbol{1F441}}
20 \newcommand{\LWR@HTML@satellitedish}{\LWR@dingbatsymbol{1F4E1}}
21 \newcommand{\LWR@HTML@smallpencil}{\LWR@dingbatsymbol{270E}}
22
23 \LWR@formatted{rightpointright}
24 \LWR@formatted{leftpointright}
25 \LWR@formatted{leftthumbsdown}
26 \LWR@formatted{leftthumbsup}
27 \LWR@formatted{rightpointleft}
28 \LWR@formatted{rightthumbsdown}
29 \LWR@formatted{rightthumbsup}
30 \LWR@formatted{squarewithdots}
31 \LWR@formatted{filledsquarewithdots}
32 \LWR@formatted{Sborder}
33 \LWR@formatted{Zborder}
34 \LWR@formatted{largepencil}
35 \LWR@formatted{anchor}
36 \LWR@formatted{carriagereturn}
37 \LWR@formatted{checkmark}
38 \LWR@formatted{eye}
39 \LWR@formatted{satellitedish}
40 \LWR@formatted{smallpencil}

```

File 101 **l warp-DotArrow.sty**

§ 201 Package **DotArrow**

(Emulates or patches code by SVEN SCHNEIDER.)

Pkg DotArrow DotArrow is patched for use by l warp, and emulated for MATHJAX.

for HTML output 1 \LWR@ProvidesPackagePass{DotArrow}[2007/02/12]

The width must be recomputed each time, depending on print or HTML output.

```

2 \xpretocmd{\dotarrow}{\settowidth{\oneWidth}{\onePartX}}{}{}
3
4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\dotarrow}[1]{\stackrel{\#1}{\text{\scriptsize{\texttt{\{\\unicode{x21E2}\\}}}}}}}
6 \end{warpMathJax}

```

File 102 l warp-dotlessi.sty**§ 202 Package dotlessi**

(Emulates or patches code by JAVIER BEZOS.)

Pkg dotlessi dotlessi is used as-is for SVG math, and is emulated for MATHJAX.

⚠ HTML \dotlessj Use \usepackage{cmap} if \dotlessj does not appear in HTML in text mode. See section 7.4.

⚠ not bold For MATHJAX, use \boldsymbol instead of \mathbf.

for HTML output: 1 \LWR@ProvidesPackagePass{dotlessi}[1999/10/12]

For MATHJAX:

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\let\dotlessi\imath}
4 \CustomizeMathJax{\let\dotlessj\jmath}
5 \end{warpMathJax}
```

File 103 l warp-dprogress.sty**§ 203 Package dprogress**

Pkg dprogress dprogress is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{dprogress}[2008/02/21]

File 104 l warp-draftcopy.sty**§ 204 Package draftcopy**

Pkg draftcopy draftcopy is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{draftcopy}[2002/02/25]

```
2 \newcommand{\draftcopyVersion}[1]{}
3 \newcommand{\draftcopySetGrey}[1]{}
4 \newcommand{\draftcopysetScale}[1]{}
5 \newcommand{\draftcopySetScaleFactor}[1]{}
6 \newcommand{\draftcopyFirstPage}[1]{}
7 \newcommand{\draftcopyLastPage}[1]{}
8 \newcommand{\draftcopyName}[2]{}
```

```
9 \newcommand{\draftcopyPageTransform}[1]{}
10 \newcommand{\draftcopyBottomTransform}[1]{}
11 \newcommand{\draftcopyPageX}[1]{}
12 \newcommand{\draftcopyPageY}[1]{}
13 \newcommand{\draftcopyBottomX}[1]{}
14 \newcommand{\draftcopyBottomY}[1]{}
```

File 105 l warp-draftfigure.sty**§ 205 Package draftfigure**

Pkg draftfigure draftfigure is ignored.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{draftfigure}[2017/07/19]
2 \RequirePackage{xkeyval}

3 \define@key{draftfigure}{code}{}
4 \define@key{draftfigure}{noframe}[true]{}
5 \define@key{draftfigure}{filename}[true]{}
6 \define@key{draftfigure}{content}{}[]
7 \define@key{draftfigure}{style}[normal]{}
8 \define@key{draftfigure}{position}[left]{}
9 \define@key{draftfigure}{size}[normal]{}
10 \newcommand\setdf[1]{\setkeys{draftfigure}{#1}}
```

File 106 l warp-draftwatermark.sty**§ 206 Package draftwatermark**

(Emulates or patches code by SERGIO CALLEGARI.)

Pkg draftwatermark draftwatermark is ignored.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{draftwatermark}[2020/03/14]

2 \newcommand{\DraftwatermarkOptions}[1]{}
3 \newcommand{\DraftwatermarkStdMark}{}%
4 \newcommand{\SetWatermarkAngle}[1]{}
5 \newcommand{\SetWatermarkColor}[1]{}
6 \newcommand{\SetWatermarkLightness}[1]{}
7 \newcommand{\SetWatermarkFontSize}[1]{}
8 \newcommand{\SetWatermarkScale}[1]{}
9 \newcommand{\SetWatermarkHorCenter}[1]{}
10 \newcommand{\SetWatermarkVertCenter}[1]{}
11 \newcommand{\SetWatermarkText}[1]{}
```

File 107 **l warp-easy-todo.sty**

§ 207 Package **easy-todo**

(Emulates or patches code by JUAN RADA-VILELA.)

Pkg easy-todo **easy-todo** is patched for use by **l warp**.

for HTML output: 1 \LWR@ProvidesPackagePass{easy-todo}[2014/01/01]

\listoftodos Modified to correct buggy use of \flushright.

```
2 \let\LWR@origlistoftodos\listoftodos
3
4 \renewcommand{\listoftodos}{%
5 \begingroup
6 \renewcommand{\flushright}{}%
7 \LWR@origlistoftodos
8 \endgroup
9 }
```

\todoii Modified to use \textcolor instead of \color.

```
10 \renewcommand{\todoii}[2]{%
11 \ifthenelse{\equal{\@todoobeyfinal}{true}}{%
12   {%
13     \ifoptionfinal{\todoenable{false}}{\todoenable{true}}{%
14     }%
15   }%
16 \ifthenelse{\equal{\@todoenable}{true}}{%
17   {%
18     \refstepcounter{todos}%
19     \noindent{%
20       \todocolor{%
21         \LWR@textcurrentcolor{%
22           \normalfont\scriptsize{\bfseries{\thetodos.\#1}}%
23         }%
24       }%
25     \addcontentsline{lod}{todos}{\protect{\thetodos. }\LWR@isolate{\#2}}%
26     }%
27   }%
28 }
```

File 108 **l warp-ebook.sty**

§ 208 Package **ebook**

(Emulates or patches code by JØRGEN STEENSGAARD.)

Pkg ebook ebook is ignored.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{ebook}

2 \setcounter{secnumdepth}{0}
3 \setcounter{tocdepth}{2}
4
5 \providecommand{\pagefill}[1][0.001mm]{\noindent}
6
7 \providecommand{\ebook}{%
8 \setcounter{secnumdepth}{0}
9 \setcounter{tocdepth}{2}
10 }

```

File 109 l warp-econometrics.sty

§ 209 Package **econometrics**

(Emulates or patches code by ERIK KOLE.)

Pkg econometrics econometrics is used as-is for SVG math, and is emulated for MATHJAX.

for HTML output:

```

1 \LWR@ProvidesPackagePass{econometrics}% no date specified in the original

2 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{econometrics}
4
5 \CustomizeMathJax{\newcommand{\SC}{\mathbb{C}}}
6 \CustomizeMathJax{\newcommand{\SN}{\mathbb{N}}}
7 \CustomizeMathJax{\newcommand{\SQ}{\mathbb{Q}}}
8 \CustomizeMathJax{\newcommand{\SR}{\mathbb{R}}}
9 \CustomizeMathJax{\newcommand{\SZ}{\mathbb{Z}}}
10
11 \CustomizeMathJax{\newcommand{\calA}{\mathcal{A}}}
12 \CustomizeMathJax{\newcommand{\calB}{\mathcal{B}}}
13 \CustomizeMathJax{\newcommand{\calC}{\mathcal{C}}}
14 \CustomizeMathJax{\newcommand{\calD}{\mathcal{D}}}
15 \CustomizeMathJax{\newcommand{\calE}{\mathcal{E}}}
16 \CustomizeMathJax{\newcommand{\calF}{\mathcal{F}}}
17 \CustomizeMathJax{\newcommand{\calG}{\mathcal{G}}}
18 \CustomizeMathJax{\newcommand{\calH}{\mathcal{H}}}
19 \CustomizeMathJax{\newcommand{\calI}{\mathcal{I}}}
20 \CustomizeMathJax{\newcommand{\calJ}{\mathcal{J}}}
21 \CustomizeMathJax{\newcommand{\calK}{\mathcal{K}}}
22 \CustomizeMathJax{\newcommand{\calL}{\mathcal{L}}}
23 \CustomizeMathJax{\newcommand{\calM}{\mathcal{M}}}
24 \CustomizeMathJax{\newcommand{\calN}{\mathcal{N}}}
25 \CustomizeMathJax{\newcommand{\calO}{\mathcal{O}}}
26 \CustomizeMathJax{\newcommand{\calP}{\mathcal{P}}}
27 \CustomizeMathJax{\newcommand{\calQ}{\mathcal{Q}}}
28 \CustomizeMathJax{\newcommand{\calR}{\mathcal{R}}}
29 \CustomizeMathJax{\newcommand{\calS}{\mathcal{S}}}

```

```
30 \CustomizeMathJax{\newcommand{\calT}{\mathcal{T}}}
31 \CustomizeMathJax{\newcommand{\calU}{\mathcal{U}}}
32 \CustomizeMathJax{\newcommand{\calV}{\mathcal{V}}}
33 \CustomizeMathJax{\newcommand{\calW}{\mathcal{W}}}
34 \CustomizeMathJax{\newcommand{\calX}{\mathcal{X}}}
35 \CustomizeMathJax{\newcommand{\calY}{\mathcal{Y}}}
36 \CustomizeMathJax{\newcommand{\calZ}{\mathcal{Z}}}
37
38 \CustomizeMathJax{\newcommand{\mA}{\bm A}}
39 \CustomizeMathJax{\newcommand{\va}{\bm a}}
40 \CustomizeMathJax{\newcommand{\mB}{\bm B}}
41 \CustomizeMathJax{\newcommand{\vb}{\bm b}}
42 \CustomizeMathJax{\newcommand{\mC}{\bm C}}
43 \CustomizeMathJax{\newcommand{\vc}{\bm c}}
44 \CustomizeMathJax{\newcommand{\mD}{\bm D}}
45 \CustomizeMathJax{\newcommand{\vd}{\bm d}}
46 \CustomizeMathJax{\newcommand{\mE}{\bm E}}
47 \CustomizeMathJax{\newcommand{\ve}{\bm e}}
48 \CustomizeMathJax{\newcommand{\mF}{\bm F}}
49 \CustomizeMathJax{\newcommand{\vf}{\bm f}}
50 \CustomizeMathJax{\newcommand{\mG}{\bm G}}
51 \CustomizeMathJax{\newcommand{\vg}{\bm g}}
52 \CustomizeMathJax{\newcommand{\mH}{\bm H}}
53 \CustomizeMathJax{\newcommand{\vh}{\bm h}}
54 \CustomizeMathJax{\newcommand{\mI}{\bm I}}
55 \CustomizeMathJax{\newcommand{\vi}{\bm i}}
56 \CustomizeMathJax{\newcommand{\mJ}{\bm J}}
57 \CustomizeMathJax{\newcommand{\vj}{\bm j}}
58 \CustomizeMathJax{\newcommand{\mK}{\bm K}}
59 \CustomizeMathJax{\newcommand{\vk}{\bm k}}
60 \CustomizeMathJax{\newcommand{\mL}{\bm L}}
61 \CustomizeMathJax{\newcommand{\vl}{\bm l}}
62 \CustomizeMathJax{\newcommand{\mM}{\bm M}}
63 \CustomizeMathJax{\newcommand{\vm}{\bm m}}
64 \CustomizeMathJax{\newcommand{\mN}{\bm N}}
65 \CustomizeMathJax{\newcommand{\vn}{\bm n}}
66 \CustomizeMathJax{\newcommand{\mO}{\bm O}}
67 \CustomizeMathJax{\newcommand{\vo}{\bm o}}
68 \CustomizeMathJax{\newcommand{\mP}{\bm P}}
69 \CustomizeMathJax{\newcommand{\vp}{\bm p}}
70 \CustomizeMathJax{\newcommand{\mQ}{\bm Q}}
71 \CustomizeMathJax{\newcommand{\vq}{\bm q}}
72 \CustomizeMathJax{\newcommand{\mR}{\bm R}}
73 \CustomizeMathJax{\newcommand{\vr}{\bm r}}
74 \CustomizeMathJax{\newcommand{\mS}{\bm S}}
75 \CustomizeMathJax{\newcommand{\vs}{\bm s}}
76 \CustomizeMathJax{\newcommand{\mT}{\bm T}}
77 \CustomizeMathJax{\newcommand{\vt}{\bm t}}
78 \CustomizeMathJax{\newcommand{\mU}{\bm U}}
79 \CustomizeMathJax{\newcommand{\vu}{\bm u}}
80 \CustomizeMathJax{\newcommand{\mV}{\bm V}}
81 \CustomizeMathJax{\newcommand{\vv}{\bm v}}
82 \CustomizeMathJax{\newcommand{\mW}{\bm W}}
83 \CustomizeMathJax{\newcommand{\vw}{\bm w}}
84 \CustomizeMathJax{\newcommand{\mX}{\bm X}}
```

```
85 \CustomizeMathJax{\newcommand{\vx}{\bm{x}}}
86 \CustomizeMathJax{\newcommand{\mY}{\bm{Y}}}
87 \CustomizeMathJax{\newcommand{\vy}{\bm{y}}}
88 \CustomizeMathJax{\newcommand{\mZ}{\bm{Z}}}
89 \CustomizeMathJax{\newcommand{\vz}{\bm{z}}}
90
91 \CustomizeMathJax{\newcommand{\valpha}{\bm{\alpha}}}
92 \CustomizeMathJax{\newcommand{\vbeta}{\bm{\beta}}}
93 \CustomizeMathJax{\newcommand{\vgamma}{\bm{\gamma}}}
94 \CustomizeMathJax{\newcommand{\vdelta}{\bm{\delta}}}
95 \CustomizeMathJax{\newcommand{\vepsi}{\bm{\epsilon}}}
96 \CustomizeMathJax{\newcommand{\vvarepsilon}{\bm{\varepsilon}}}
97 \CustomizeMathJax{\newcommand{\vzeta}{\bm{\zeta}}}
98 \CustomizeMathJax{\newcommand{\veta}{\bm{\eta}}}
99 \CustomizeMathJax{\newcommand{\vtheta}{\bm{\theta}}}
100 \CustomizeMathJax{\newcommand{\viota}{\bm{\iota}}}
101 \CustomizeMathJax{\newcommand{\vkappa}{\bm{\kappa}}}
102 \CustomizeMathJax{\newcommand{\vlambda}{\bm{\lambda}}}
103 \CustomizeMathJax{\newcommand{\vmu}{\bm{\mu}}}
104 \CustomizeMathJax{\newcommand{\vnu}{\bm{\nu}}}
105 \CustomizeMathJax{\newcommand{\vxi}{\bm{\xi}}}
106 \CustomizeMathJax{\newcommand{\vpi}{\bm{\pi}}}
107 \CustomizeMathJax{\newcommand{\vrho}{\bm{\rho}}}
108 \CustomizeMathJax{\newcommand{\vsigma}{\bm{\sigma}}}
109 \CustomizeMathJax{\newcommand{\vtau}{\bm{\tau}}}
110 \CustomizeMathJax{\newcommand{\upsilon}{\bm{\upsilon}}}
111 \CustomizeMathJax{\newcommand{\vphi}{\bm{\phi}}}
112 \CustomizeMathJax{\newcommand{\vchi}{\bm{\chi}}}
113 \CustomizeMathJax{\newcommand{\vpsi}{\bm{\psi}}}
114 \CustomizeMathJax{\newcommand{\vomega}{\bm{\omega}}}
115
116 \CustomizeMathJax{\newcommand{\mGamma}{\bm{\varGamma}}}
117 \CustomizeMathJax{\newcommand{\mDelta}{\bm{\varDelta}}}
118 \CustomizeMathJax{\newcommand{\mTheta}{\bm{\varTheta}}}
119 \CustomizeMathJax{\newcommand{\mLambda}{\bm{\varLambda}}}
120 \CustomizeMathJax{\newcommand{\mXi}{\bm{\varXi}}}
121 \CustomizeMathJax{\newcommand{\mPi}{\bm{\varPi}}}
122 \CustomizeMathJax{\newcommand{\mSigma}{\bm{\varSigma}}}
123 \CustomizeMathJax{\newcommand{\mUpsilon}{\bm{\varUpsilon}}}
124 \CustomizeMathJax{\newcommand{\mPhi}{\bm{\varPhi}}}
125 \CustomizeMathJax{\newcommand{\mPsi}{\bm{\varPsi}}}
126 \CustomizeMathJax{\newcommand{\mOmega}{\bm{\varOmega}}}
127
128 \CustomizeMathJax{\newcommand{\rb}{\mathrm{b}}}
129 \CustomizeMathJax{\newcommand{\rB}{\mathrm{B}}}
130 \CustomizeMathJax{\newcommand{\rC}{\mathrm{C}}}
131 \CustomizeMathJax{\newcommand{\rD}{\mathrm{D}}}
132 \CustomizeMathJax{\newcommand{\rf}{\mathrm{f}}}
133 \CustomizeMathJax{\newcommand{\rF}{\mathrm{F}}}
134 \CustomizeMathJax{\newcommand{\rH}{\mathrm{H}}}
135 \CustomizeMathJax{\newcommand{\rL}{\mathrm{L}}}
136 \CustomizeMathJax{\newcommand{\rN}{\mathrm{N}}}
137 \CustomizeMathJax{\newcommand{\rt}{\mathrm{t}}}
138 \CustomizeMathJax{\newcommand{\rU}{\mathrm{U}}}
139 \CustomizeMathJax{\newcommand{\rGam}{\mathrm{Gam}}}
```

```
140 \CustomizeMathJax{\newcommand{\rBeta}{\mathrm{Beta}}}}
141
142 \CustomizeMathJax{\newcommand{\Bin}{\mathrm{Bin}}}
143 \CustomizeMathJax{\newcommand{\eu}{\mathrm{e}}}
144 \CustomizeMathJax{\newcommand{\iu}{\mathrm{i}}}
145 \CustomizeMathJax{\newcommand{\LN}{\mathrm{LN}}}
146 \CustomizeMathJax{\newcommand{\IN}{\mathrm{IN}}}
147
148 \CustomizeMathJax{\newcommand{\Poi}{\mathrm{Poi}}}
149
150 \CustomizeMathJax{\newcommand{\ped}[1]{\mathrm{\#1}}}
151 \CustomizeMathJax{\newcommand{\ap}[1]{^{\mathrm{\#1}}}}
152 \CustomizeMathJax{\renewcommand{\Re}{\mathrm{Re}}{\nolimits}}
153 \CustomizeMathJax{\renewcommand{\Im}{\mathrm{Im}}{\nolimits}}
154
155 \CustomizeMathJax{\newcommand{\deriv}[3]{%
156   \frac{\mathrm{d}^{\mathrm{\#1}}\mathrm{#2}}{\mathrm{d}\mathrm{\#1}^{\mathrm{\#1}}}\mathrm{\#3}^{\mathrm{\#1}}\%
157 }}
158 \CustomizeMathJax{\newcommand{\pderiv}[3]{%
159   \frac{\partial^{\mathrm{\#1}}\mathrm{\#2}}{\partial\mathrm{\#1}^{\mathrm{\#1}}}\mathrm{\#3}^{\mathrm{\#1}}\%
160 }}
161
162 \CustomizeMathJax{\newcommand{\bias}{\operatorname{bias}}}
163 \CustomizeMathJax{\newcommand{\col}{\operatorname{col}}}
164 \CustomizeMathJax{\newcommand{\corr}{\operatorname{corr}}}
165 \CustomizeMathJax{\newcommand{\cov}{\operatorname{cov}}}
166 \CustomizeMathJax{\newcommand{\dg}{\operatorname{dg}}}
167 \CustomizeMathJax{\newcommand{\diag}{\operatorname{diag}}}
168 \CustomizeMathJax{\newcommand{\E}{\operatorname{E}}}
169 \CustomizeMathJax{\newcommand{\etr}{\operatorname{etr}}}
170 \CustomizeMathJax{\newcommand{\ip}{\mathrm{int}}{\nolimits}}
171 \CustomizeMathJax{\newcommand{\kur}{\operatorname{kur}}}
172 \CustomizeMathJax{\newcommand{\MSE}{\operatorname{MSE}}}
173 \CustomizeMathJax{\newcommand{\MSFE}{\operatorname{MSFE}}}
174 \CustomizeMathJax{\newcommand{\OLS}{\operatorname{OLS}}}
175 \CustomizeMathJax{\newcommand{\plim}{\operatorname{plim}}}
176 \CustomizeMathJax{\newcommand{\resid}{\operatorname{resid}}}
177 \CustomizeMathJax{\newcommand{\rk}{\operatorname{rk}}}
178 \CustomizeMathJax{\newcommand{\SE}{\operatorname{SE}}}
179 \CustomizeMathJax{\newcommand{\sgn}{\operatorname{sgn}}}
180 \CustomizeMathJax{\newcommand{\tr}{\operatorname{tr}}}
181 \CustomizeMathJax{\newcommand{\var}{\operatorname{var}}}
182 \CustomizeMathJax{\renewcommand{\vec}{\operatorname{vec}}}
183 \CustomizeMathJax{\newcommand{\vech}{\operatorname{vech}}}
184
185 \CustomizeMathJax{\newcommand{\distr}{\operatorname{sim}}}
186 \CustomizeMathJax{\newcommand{\adistr}{\operatorname{stackrel{a}{distr}}}}
187 \CustomizeMathJax{\newcommand{\diff}{\Delta}}
188 \CustomizeMathJax{\newcommand{\fdiff}{\operatorname{diff}_{\mathrm{rf}}}}
189 \CustomizeMathJax{\newcommand{\bdiff}{\operatorname{diff}_{\mathrm{rb}}}}
190
191 \CustomizeMathJax{\newcommand{\eps}{\epsilon}}
192 \CustomizeMathJax{\newcommand{\epsi}{\varepsilon}}
193
194 \CustomizeMathJax{\newcommand{\longto}{\rightarrowtail}}
```

```

195 \CustomizeMathJax{\newcommand{\pto}{\stackrel{p}{\longrightarrow}}}
196 \CustomizeMathJax{\newcommand{\dto}{\stackrel{d}{\longrightarrow}}}
197 \CustomizeMathJax{\newcommand{\wto}{\stackrel{w}{\longrightarrow}}}
198
199 \CustomizeMathJax{\newcommand{\Infmat}{\bm{\cal I}}}
200 \CustomizeMathJax{\newcommand{\Hesmat}{\bm{\cal H}}}
201 \CustomizeMathJax{\newcommand{\bcdot}{\bullet}}
202
203 \CustomizeMathJax{\newcommand{\vones}{\bm{\imath}}}
204 \CustomizeMathJax{\newcommand{\vzeros}{\boldsymbol{0}}}
205 \CustomizeMathJax{\newcommand{\mZeros}{\mathbf{0}}}
206
207 \CustomizeMathJax{\newcommand{\e}{\eu}}
208 \CustomizeMathJax{\newcommand{\mply}{\cdot}}
209 \CustomizeMathJax{\newcommand{\rW}{\ensuremath{\mathit{W}}}}
210 \end{warpMathJax}

```

File 110 **l warp-ed.sty**

§ 210 Package **ed**

(Emulates or patches code by MICHAEL KOHLHASE.)

Pkg **ed** **ed** is patched for use by **l warp**.

for HTML output: 1 \LWR@ProvidesPackagePass{ed}[2012/01/29]

Bugs:

1. todolist fails with the hide option, as does \edexplanation.
2. \edstubURI is actually \edstuURI.

```

2 \RequirePackage{xcolor}
3
4 \renewenvironment{edstub}[2][The following blue text]
5 {%
6   \def\@test{\#1}%
7   \begin{center}%
8     \huge%
9     \textcolor{red}{\#1 is only a provisional stub\\Large%
10       the Office document%
11       \ifx\ed@stubURI\empty\else\href{\ed@stubURI}{\#2}\fi%
12       contains more text\which will be merged for the final document%}
13     }%
14   \end{center}%
15   \BlockClass{color:blue}{edstub}%
16 }
17 {
18 \endBlockClass

```

File 111 l warp-ellipsis.sty**§ 211 Package ellipsis**

(Emulates or patches code by PETER J. HESLIN.)

Pkg ellipsis ellipsis is emulated.

```
1 \LWR@ProvidesPackageDrop{ellipsis}[2004/09/28]
2
3 \newcommand{\ellipsisgap}{0.1em}
4
5 \newcommand*{\midwordellipsis}{\textellipsis}
```

File 112 l warp-embrac.sty**§ 212 Package embrac**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

Pkg embrac embrac is nullfied for HTML and used as-is for print.

for HTML output: 1 \LWR@ProvidesPackagePass{embrac}[2017/07/04]

```
2 \LetLtxMacro{\LWR@orig@HTML@emph}{\LWR@HTML@emph}
3 \RenewDocumentCommand{\LWR@HTML@emph}{s m}{\LWR@orig@HTML@emph{#2}}
4
5 \LetLtxMacro{\LWR@orig@HTML@textit}{\LWR@HTML@textit}
6 \RenewDocumentCommand{\LWR@HTML@textit}{s m}{\LWR@orig@HTML@textit{#2}}
7
8 \LetLtxMacro{\LWR@orig@HTML@textsl}{\LWR@HTML@textsl}
9 \RenewDocumentCommand{\LWR@HTML@textsl}{s m}{\LWR@orig@HTML@textsl{#2}}
10
11 \ifxetexorluatex
12   \LetLtxMacro{\LWR@orig@HTML@textsi}{\LWR@HTML@textsi}
13   \RenewDocumentCommand{\LWR@HTML@textsi}{s m}{%
14     \LWR@orig@HTML@textsi{#2}}
15 \fi
16
17 \AtBeginDocument{
18   \LWR@formatted{emph}
19   \LWR@formatted{textit}
20   \LWR@formatted{textsl}
21   \ifxetexorluatex
22     \LWR@formatted{textsi}
23   \fi
24 }
25
```

```
26 \newcommand{\LWR@HTML@EmbracOff}{}
27 \LWR@formatted{EmbracOff}
28
29 \newcommand{\LWR@HTML@EmbracOn}{}
30 \LWR@formatted{EmbracOn}
```

File 113 l warp-emptypage.sty**§ 213 Package *emptypage***

Pkg *emptypage* *emptypage* is ignored.

for HTML output: Discard all options for *l warp-emptypage*:

```
1 \LWR@ProvidesPackageDrop{emptypage}[2010/05/30]
```

File 114 l warp-endfloat.sty**§ 214 Package *endfloat***

Pkg *endfloat* *endfloat* is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{endfloat}[2019/04/15]

```
2 \newcommand\figureplace{}
3 \newcommand\tableplace{}
4 \newcommand\floatplace[1]{}
5 \newcounter{posttable}
6 \newcounter{postfigure}
7 \newcommand*\theposttbl(){}
8 \newcommand*\thepostfig(){}
9 \newcommand{\AtBeginFigures}[1]({})
10 \newcommand{\AtBeginTables}[1]({})
11 \newcommand{\AtBeginDelayedFloats}[1]({})
12 \newcommand*\processdelayedfloats(){}
13 \newcommand*\efloatseparator(){}
14 \def\efloatattype{}
15 \providecommand\efloatheading[1]({})
16 \providecommand\efloatpreamble){}
17 \providecommand\efloatpostamble){}
18 \NewDocumentCommand{\addtodelayedfloat}{s m m} {}
19 \providecommand{\efloatbegin} {}
20 \providecommand{\efloatend} {}
21 \providecommand{\efloatbeginlist} {}
22 \providecommand{\efloatendlist} {}
```

File 115 l warp-endheads.sty**§ 215 Package endheads**

Pkg endheads endheads is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{endheads}[2017/04/06]

```
2 \newcommand{\changesinglepageabbrev}[1]{}
3 \newcommand{\changemultiplepageabbrev}[1]{}
4 \newcommand{\changetitlesname}[1]{}
5 \newcommand{\changetitlesheader}[1]{}
6 \newcommand{\changetitlescontentsname}[1]{}
7 \newcommand{\changechaptertitlesline}[1]{}
8 \newcommand{\checknoteheaders}){}
9 \newif\ifnotesincontents \notesincontentsfalse
10 \newcommand{\notesincontents}{\notesincontentstrue}
11 \newif\ifendnoteheaderson \endnoteheadersonfalse
12 \newcommand{\setupendnoteheaders}{%
13     \endnoteheadersontrue%
14 }
15 \newif\iftitleinnotes \titleinnotestrue
16 \newcommand{\styleforchapternotebegin}(){}
17 \newcommand{\styleforchapternoteend}(){}
18 \newcommand{\setstyleforchapternotebegin}[1]{%
19     \renewcommand{\styleforchapternotebegin}{#1}%
20 }
21 \newcommand{\setstyleforchapternoteend}[1]{%
22     \renewcommand{\styleforchapternoteend}{#1}%
23 }
24 \newcommand{\resetendnotes} {}
25 \newif\ifnotesbychapteron \notesbychapteronfalse
26 \newcommand{\notesbychapter}{\notesbychapterontrue}
```

File 116 l warp-endnotes.sty**§ 216 Package endnotes**

(Emulates or patches code by JOHN LAVAGNINO.)

Pkg endnotes Used as-is.

table of contents To place the endnotes in the TOC, use:

```
\usepackage{endnotes}
\appto\enoteheading{\addcontentsline{toc}{section}{\notesname}}
\renewcommand*\{\notesname}{Endnotes} % optional
```

HTML page To additionally have the endnotes on their own HTML page, if `FileDepth` allows:

```
\ForceHTMLPage
\theendnotes
```

⚠ \endnotemark numbering If using `MATHJAX`, see section 8.5.4 regarding the use of `\endnotemark` and `\endnotetext`.

for HTML output:

```
1 \LWR@ProvidesPackagePass{endnotes}

2 \def\enoteformat{%
3   \rightskip\z@ \leftskip\z@ \parindent=1.8em
4   \leavevmode
5   \llap{
6     \makeenmark
7   }
8 }

9 \def\LWR@HTML@@makeenmark{\hbox{\LWR@htmlspan{sup}{\normalfont\theenmark}}}
10 \LWR@formatted{@makeenmark}
11
12 \def\makeenmark{\@makeenmark}
```

For `MATHJAX`:

```
13 \begin{warpMathJax}
14 \def\endnotename{endnote}
15 \appto{\LWR@syncnotenumbers}{\LWR@synconenotenumber{\LWRendnote}{\theendnote}}
16 \appto{\LWR@syncnotenames}{\LWR@synconenotename{\LWRendnote}{\endnotename}}
17 \CustomizeMathJax{\def{\LWRendnote{1}}}
18 \CustomizeMathJax{\newcommand{\endnote}[2]{[\LWRendnote]{\{}^{\mathrm{#1}}\}}}
19 \CustomizeMathJax{\newcommand{\endnotemark}[1]{[\LWRendnote]{\{}^{\mathrm{#1}}\}}}
20 \end{warpMathJax}
```

File 117 lwarf-engtlc.sty

§ 217 Package **engtlc**

(Emulates or patches code by CLAUDIO FIANDRINO.)

Pkg engtlc engtlc is patched for use by `lwarf`. `MATHJAX` is emulated.

⚠ For `MATHJAX`, `\signt`, `\signf`, `\signn`, and `\signz` do not force letter case as they do in SVG math.

for HTML output:

```
1 \LWR@ProvidesPackagePass{engtlc}[2012/12/18]

2 \newcommand{\LWR@HTML@finees}{%
3   \begin{BlockClass}[text-align:right]{exerend}%
4   \HTMLunicode{220E}%
5   \end{BlockClass}%
6 }
```

```
7 \LWR@formatted{finees}
8
9 \newcommand{\LWR@HTML@exerend}{\finees}
10 \LWR@formatted{exerend}
11
12 \begin{warpMathJax}
13 \LWR@infoprocessingmathjax{engtlc}
14
15 \CustomizeMathJax{\newcommand{\unit}[1]{\mathrm{#1}}}
16 \CustomizeMathJax{\newcommand{\micro}{\mathrm{\unicode{x00B5}}}}
17 %
18 \CustomizeMathJax{\newcommand{\ho}{\unit{h}}}
19 \CustomizeMathJax{\newcommand{\s}{\unit{s}}}
20 \CustomizeMathJax{\newcommand{\ms}{\unit{ms}}}
21 \CustomizeMathJax{\newcommand{\us}{\unit{\micro s}}}
22 \CustomizeMathJax{\newcommand{\ns}{\unit{ns}}}
23 \CustomizeMathJax{\newcommand{\ps}{\unit{ps}}}
24 %
25 \CustomizeMathJax{\newcommand{\um}{\unit{\micro m}}}
26 \CustomizeMathJax{\newcommand{\mm}{\unit{mm}}}
27 \CustomizeMathJax{\newcommand{\cm}{\unit{cm}}}
28 \CustomizeMathJax{\newcommand{\dm}{\unit{dm}}}
29 \CustomizeMathJax{\newcommand{\m}{\unit{m}}}
30 \CustomizeMathJax{\newcommand{\km}{\unit{km}}}
31 %
32 \CustomizeMathJax{\newcommand{\MA}{\unit{MA}}}
33 \CustomizeMathJax{\newcommand{\kA}{\unit{kA}}}
34 \CustomizeMathJax{\newcommand{\A}{\unit{A}}}
35 \CustomizeMathJax{\newcommand{\mA}{\unit{mA}}}
36 \CustomizeMathJax{\newcommand{\uA}{\unit{\micro A}}}
37 \CustomizeMathJax{\newcommand{\nA}{\unit{nA}}}
38 %
39 \CustomizeMathJax{\newcommand{\MV}{\unit{MV}}}
40 \CustomizeMathJax{\newcommand{\kV}{\unit{kV}}}
41 \CustomizeMathJax{\newcommand{\V}{\unit{V}}}
42 \CustomizeMathJax{\newcommand{\mV}{\unit{mV}}}
43 \CustomizeMathJax{\newcommand{\uV}{\unit{\micro V}}}
44 %
45 \CustomizeMathJax{\newcommand{\mohm}{\unit{m\Omega}}}
46 \CustomizeMathJax{\newcommand{\ohm}{\unit{\Omega}}}
47 \CustomizeMathJax{\newcommand{\kohm}{\unit{k\Omega}}}
48 \CustomizeMathJax{\newcommand{\Mohm}{\unit{M\Omega}}}
49 %
50 \CustomizeMathJax{\newcommand{\pSi}{\unit{pS}}}
51 \CustomizeMathJax{\newcommand{\nSi}{\unit{nS}}}
52 \CustomizeMathJax{\newcommand{\uSi}{\unit{\micro S}}}
53 \CustomizeMathJax{\newcommand{\mSi}{\unit{mS}}}
54 \CustomizeMathJax{\newcommand{\Si}{\unit{S}}}
55 \CustomizeMathJax{\newcommand{\kSi}{\unit{kS}}}
56 \CustomizeMathJax{\newcommand{\MSi}{\unit{MS}}}
57 %
58 \CustomizeMathJax{\newcommand{\fFa}{\unit{fF}}}
59 \CustomizeMathJax{\newcommand{\pFa}{\unit{pF}}}
60 \CustomizeMathJax{\newcommand{\nFa}{\unit{nF}}}
61 \CustomizeMathJax{\newcommand{\uFa}{\unit{\micro F}}}
```

```
62 \CustomizeMathJax{\newcommand{\mFa}{\unit{mF}}}
63 \CustomizeMathJax{\newcommand{\Fa}{\unit{F}}}
64 %
65 \CustomizeMathJax{\newcommand{\fHe}{\unit{fH}}}
66 \CustomizeMathJax{\newcommand{\pHe}{\unit{pH}}}
67 \CustomizeMathJax{\newcommand{\nHe}{\unit{nH}}}
68 \CustomizeMathJax{\newcommand{\uHe}{\unit{\micro H}}}
69 \CustomizeMathJax{\newcommand{\mHe}{\unit{mH}}}
70 \CustomizeMathJax{\newcommand{\He}{\unit{H}}}
71 %
72 \CustomizeMathJax{\newcommand{\dB}{\unit{dB}}}
73 \CustomizeMathJax{\newcommand{\dBm}{\unit{dBm}}}
74 %
75 \CustomizeMathJax{\newcommand{\uW}{\unit{\micro W}}}
76 \CustomizeMathJax{\newcommand{\mW}{\unit{mW}}}
77 \CustomizeMathJax{\newcommand{\W}{\unit{W}}}
78 \CustomizeMathJax{\newcommand{\kW}{\unit{kW}}}
79 \CustomizeMathJax{\newcommand{\MW}{\unit{MW}}}
80 %
81 \CustomizeMathJax{\newcommand{\Hz}{\unit{Hz}}}
82 \CustomizeMathJax{\newcommand{\kHz}{\unit{kHz}}}
83 \CustomizeMathJax{\newcommand{\MHz}{\unit{MHz}}}
84 \CustomizeMathJax{\newcommand{\GHz}{\unit{GHz}}}
85 \CustomizeMathJax{\newcommand{\THz}{\unit{THz}}}
86 %
87 \CustomizeMathJax{\newcommand{\bit}{\unit{bit}}}
88 \CustomizeMathJax{\newcommand{\kbit}{\unit{Kib}}}
89 \CustomizeMathJax{\newcommand{\Mbit}{\unit{Mib}}}
90 \CustomizeMathJax{\newcommand{\Byte}{\unit{B}}}
91 \CustomizeMathJax{\newcommand{\kByte}{\unit{KiB}}}
92 \CustomizeMathJax{\newcommand{\MByte}{\unit{MiB}}}
93 \CustomizeMathJax{\newcommand{\GByte}{\unit{GiB}}}
94 \CustomizeMathJax{\newcommand{\TByte}{\unit{TiB}}}
95 \CustomizeMathJax{\newcommand{\bits}{\unit{bit/s}}}
96 \CustomizeMathJax{\newcommand{\kbits}{\unit{Kib/s}}}
97 \CustomizeMathJax{\newcommand{\Mbits}{\unit{Mib/s}}}
98 \CustomizeMathJax{\newcommand{\Bytes}{\unit{B/s}}}
99 \CustomizeMathJax{\newcommand{\kBytes}{\unit{KiB/s}}}
100 \CustomizeMathJax{\newcommand{\MBytes}{\unit{MiB/s}}}
101 \CustomizeMathJax{\newcommand{\GBytes}{\unit{GiB/s}}}
102 \CustomizeMathJax{\newcommand{\TBytes}{\unit{TiB/s}}}
103 \CustomizeMathJax{\newcommand{\chips}{\unit{chip/s}}}
104 \CustomizeMathJax{\newcommand{\kchips}{\unit{Ki\mkern2mu chip/s}}}
105 \CustomizeMathJax{\newcommand{\Mchips}{\unit{Mi\mkern2mu chip/s}}}
106 \CustomizeMathJax{\newcommand{\chipsubit}{\unit{chip/bit}}}
107 %
108 \CustomizeMathJax{\newcommand{\frecciadex}[1][0.5]{%
109     \hspace{.25cm}\Longrightarrow\hspace{.25cm}}}
110 }
111 \CustomizeMathJax{\newcommand{\varianzarumore}{\frac{N_0}{2}}}
112 %
113 \CustomizeMathJax{\newcommand{\etsymbolbracearg}[2]{%
114     #1\mathopen{}\left\lceil#2\right\rceil\mathclose{}}
115 }
116 \CustomizeMathJax{\newcommand{\fourier}[1]{\etsymbolbracearg{\mathcal{F}}{#1}}}
```

```
117 \CustomizeMathJax{\newcommand{\invfourier}[1]{\etsymbolbracearg{\mathcal{F}}^{-1}}{#1}}}
118 \CustomizeMathJax{\newcommand{\partereale}[1]{\etsymbolbracearg{\textbf{Re}}}{#1}}}
119 \CustomizeMathJax{\newcommand{\parteimm}[1]{\etsymbolbracearg{\textbf{Im}}}{#1}}}
120 \CustomizeMathJax{\newcommand{\Info}[1]{\left(\#1\right)}}}
121 \CustomizeMathJax{\newcommand{\versore}[1]{\hat{\#1}}}}
122 \CustomizeMathJax{\newcommand{\vettore}[1]{\overrightarrow{\#1}}}}
123 \CustomizeMathJax{\newcommand{\coseno}[1]{\cos\left(2\pi\#1\right)}}
124 \CustomizeMathJax{\newcommand{\seno}[1]{\sin\left(2\pi\#1\right)}}
125 \CustomizeMathJax{\newcommand{\energia}[1]{\mathcal{E}}{#1}}}
126 \CustomizeMathJax{\newcommand{\moduloexp}[2]{\left|\#1\right|^{#2}}}
127 \CustomizeMathJax{\newcommand{\modulo}[1]{\left|\#1\right|}}
128 \CustomizeMathJax{\newcommand{\indB}[1]{%
129   \mathopen{}\left.\#1\right|\mathclose{}%}}
130 \CustomizeMathJax{\newcommand{\for}[2]{\left.\#1\right|\left.\#2\right)}}}
131 \CustomizeMathJax{\newcommand{\massimo}[1]{\etsymbolbracearg{\max}}{#1}}}
132 \CustomizeMathJax{\newcommand{\minimo}[1]{\etsymbolbracearg{\min}}{#1}}}
133 \CustomizeMathJax{\newcommand{\valc}{3\cdot 10^8}}
134 \CustomizeMathJax{\newcommand{\loga}[2]{\log_{\#1}\#2}}
135 \CustomizeMathJax{\newcommand{\analitic}[1]{\mathring{\#1}}}}
136 \CustomizeMathJax{\newcommand{\diff}{\mathop{}\mathopen{\mathrm{d}}}}
137 \CustomizeMathJax{\newcommand{\intinf}[1]{\int_{-\infty}^{+\infty}}{#1}}}
138 \CustomizeMathJax{\newcommand{\deltain}[1]{\delta\left(\#1\right)}}
139 \CustomizeMathJax{\newcommand{\iu}{\mathrm{j}}}
140 \CustomizeMathJax{\newcommand{\ex}[1]{\mathrm{e}}^{#1}}}
141 %
142 \CustomizeMathJax{\newcommand{\gammatens}{\mathcal{V}}{\Gamma}}
143 \CustomizeMathJax{\newcommand{\gammacorr}{\mathcal{I}}{\Gamma}}
144 \CustomizeMathJax{\newcommand{\gammatensin}{\mathcal{V}}{\Gamma_{\mathcal{I}}}}
145 \CustomizeMathJax{\newcommand{\gammacorrin}{\mathcal{I}}{\Gamma_{\mathcal{I}}}}
146 \CustomizeMathJax{\newcommand{\gammain}{\mathcal{I}}{\Gamma_{\mathcal{I}}}}
147 \CustomizeMathJax{\newcommand{\gammak}{\mathcal{k}}{\Gamma_{\mathcal{k}}}}
148 %
149 \CustomizeMathJax{\newcommand{\lbvt}{\lambda_0}}
150 \CustomizeMathJax{\newcommand{\lbg}{\lambda_g}}
151 \CustomizeMathJax{\newcommand{\lbgvt}{\lambda_{g_0}}}
152 %
153 \CustomizeMathJax{\newcommand{\potin}{P_{\mathcal{V}}}{#1}}
154 \CustomizeMathJax{\newcommand{\potdisp}{P_{\mathit{disp}}}{#1}}
155 \CustomizeMathJax{\newcommand{\potDC}{P_{\mathit{DC}}}{#1}}
156 \CustomizeMathJax{\newcommand{\potCC}{P_{\mathit{CC}}}{#1}}
157 \CustomizeMathJax{\newcommand{\potirr}{P_{\mathit{IRR}}}{#1}}
158 \CustomizeMathJax{\newcommand{\potdiss}{P_{\mathit{Diss}}}{#1}}
159 \CustomizeMathJax{\newcommand{\potinc}{P_{\mathit{Inc}}}{#1}}
160 %
161 \CustomizeMathJax{\newcommand{\z}{Z_{\mathcal{V}}}{#1}}
162 \CustomizeMathJax{\newcommand{\znorm}{z_{\mathcal{V}}}{#1}}
163 \CustomizeMathJax{\newcommand{\y}{Y_{\mathcal{V}}}{#1}}
164 \CustomizeMathJax{\newcommand{\ynorm}{y_{\mathcal{V}}}{#1}}
165 \CustomizeMathJax{\newcommand{\zinff}{Z_{\infty}}{#1}}
166 \CustomizeMathJax{\newcommand{\zinfn}{z_{\infty}}{#1}}
167 \CustomizeMathJax{\newcommand{\yinff}{Y_{\infty}}{#1}}
168 \CustomizeMathJax{\newcommand{\yinfn}{y_{\infty}}{#1}}
169 \CustomizeMathJax{\newcommand{\zvt}{Z_0}{#1}}
170 \CustomizeMathJax{\newcommand{\yvt}{Y_0}{#1}}
171 %
```

```
172 \CustomizeMathJax{\newcommand{\campoe}{\underline{\mathcal{E}}(\underline{r},t)}}
173 \CustomizeMathJax{\newcommand{\campoefas}{\underline{E}(\underline{r})}}
174 \CustomizeMathJax{\newcommand{\campoh}{\underline{\mathcal{H}}(\underline{r},t)}}
175 \CustomizeMathJax{\newcommand{\campohfas}{\underline{H}(\underline{r})}}
176 %
177 \CustomizeMathJax{\newcommand{\signt}[1]{\#1}(t)}}
178 \CustomizeMathJax{\newcommand{\signf}[1]{\#1}(f)}}
179 \CustomizeMathJax{\newcommand{\signn}[1]{\#1}(n)}}
180 \CustomizeMathJax{\newcommand{\signz}[1]{\#1}(z)}}
181 %
182 \CustomizeMathJax{\newcommand{\prob}[1]{\mathcal{P}\left(\#1\right)}}
183 \CustomizeMathJax{\newcommand{\valatt}[1]{\mathbb{E}\left[\#1\right]}}
184 \CustomizeMathJax{\newcommand{\var}[1]{\mathrm{Var}\left[\#1\right]}}
185 \CustomizeMathJax{\newcommand{\comma}{\text{, } , \text{, }}}
186 \CustomizeMathJax{\newcommand{\dato}{\text{\textbackslash}, |\text{\textbackslash}, \text{}}}
187 %
188 \CustomizeMathJax{\let\bfRe\partereale}
189 \CustomizeMathJax{\let\bfIm\parteimm}
190 \CustomizeMathJax{\let\noisevar\varianzarumore}
191 % \CustomizeMathJax{\let\exerend\finees}
192 \CustomizeMathJax{\let\Spimplies\frecciadex}
193 \CustomizeMathJax{\let\Downimplies\frecciadown}
194 \CustomizeMathJax{\let\unitvec\versore}
195 \CustomizeMathJax{\let\vector\vettore}
196 \CustomizeMathJax{\let\cosine\coseno}
197 \CustomizeMathJax{\let\sine\seno}
198 \CustomizeMathJax{\let\energy\energia}
199 \CustomizeMathJax{\let\Abs\modulo}
200 \CustomizeMathJax{\let\AbsPow\moduloexp}
201 \CustomizeMathJax{\let\Max\massimo}
202 \CustomizeMathJax{\let\Min\minimo}
203 \CustomizeMathJax{\let\clight\valc}
204 \CustomizeMathJax{\let\Log\loga}
205 \CustomizeMathJax{\let\analytic\analitic}
206 \CustomizeMathJax{\let\infint\intinf}
207 \CustomizeMathJax{\let\deltaimp\deltaimp}
208 \CustomizeMathJax{\let\Vgamma\gammatens}
209 \CustomizeMathJax{\let\CGamma\gammacorr}
210 \CustomizeMathJax{\let\Vgammmain\gammatensin}
211 \CustomizeMathJax{\let\CGammmain\gammacorrin}
212 \CustomizeMathJax{\let\Kgamma\gammak}
213 \CustomizeMathJax{\let\powerin\potin}
214 \CustomizeMathJax{\let\availpow\potdisp}
215 \CustomizeMathJax{\let\irrpow\potirr}
216 \CustomizeMathJax{\let\disspow\potdiss}
217 \CustomizeMathJax{\let\incpow\potinc}
218 \CustomizeMathJax{\let\potalim\potCC}
219 \CustomizeMathJax{\let\potDC\potCC}
220 \CustomizeMathJax{\let\Efield\campoe}
221 \CustomizeMathJax{\let\Hfield\campoh}
222 \CustomizeMathJax{\let\phasorEfield\campoefas}
223 \CustomizeMathJax{\let\phasorHfiled\campohfas}
224 \CustomizeMathJax{\let\given\dato}
225 \CustomizeMathJax{\let\expval\valatt}
226 \CustomizeMathJax{\let\rmexp\ex}
```

```
227 \end{warpMathJax}
```

File 118 l warp-enumerate.sty**§ 218 Package enumerate**

Pkg **enumerate** **enumerate** is supported with no changes.

This package is only required because it was used in the past to drop and then emulate the package. It cannot be removed because an older version which dropped the package may still remain, for example in a local vs. distribution directory, but it is now supported directly by **l warp** and thus must no longer be dropped.

for HTML output: 1 \LWR@ProvidesPackagePass{enumerate}[2015/07/23]

File 119 l warp-enumitem.sty**§ 219 Package enumitem**

(Emulates or patches code by JAVIER BEZOS.)

Pkg **enumitem** **enumitem** is supported with minor adjustments.

for HTML output: 1 \LWR@ProvidesPackagePass{enumitem}[2018/11/30]

for HTML output: 2 \begin{warpHTML}

```
\newlist {\name} {\type} {\maxdepth}
\renewlist {\name} {\type} {\maxdepth}
```

For **enumitem** lists, new lists must have the start and end actions assigned to the new environment. Renewed lists already have their actions assigned, and thus need no changes.

```
3 \let\LWR@enumitem@orig newList\newList
4
5 \renewcommand*\newList[3]{%
6 \LWR@enumitem@orig newList[#1]{#2}{#3}%
7 \AtBeginEnvironment{#1}{\@nameuse{\LWR@#2start}}%
8 \AtEndEnvironment{#1}{\@nameuse{\LWR@#2end}}%
9 }
10
11 \def\DrawEnumitemLabel{}  

12 \end{warpHTML}
```

File 120 **l warp-epigraph.sty**

§ 220 Package **epigraph**

(Emulates or patches code by PETER WILSON.)

Pkg epigraph epigraph is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{epigraph}[2009/09/02]

```
2 \DeclareDocumentCommand{\qitem}{m m}
3 {
4 \begin{BlockClass}{qitem}
5 #1
6 \LWR@stoppars%
7 \ifbool{FormatWP}
8 {\begin{BlockClass}[border-top:1px solid gray]{epigraphsource}}
9 {\begin{BlockClass}{epigraphsource}}
10 #2
11 \end{BlockClass}
12 \end{BlockClass}
13 }

14 \DeclareDocumentCommand{\epigraph}{m m}
15 {
16 \begin{LWR@BlockClassWP}{\LWR@print@mbox{text-align:right}}{}{epigraph}
17 \qitem[#1]{#2}
18 \end{LWR@BlockClassWP}
19 }
20
21 \DeclareDocumentEnvironment{epigraphs} {}
22 {\LWR@BlockClassWP{\LWR@print@mbox{text-align:right}}{}{epigraph}}
23 {\endLWR@BlockClassWP}
```

Use css to format epigraphs.

The following are null commands for source compatibility:

```
24 \newenvironment*{flushepinormal}{}{}

25 \@ifclassloaded{memoir}{
26 \setlength{\epigraphwidth}{.5\linewidth}
27 \renewcommand{\textflush}{flushepinormal}
28 \renewcommand{\epigraphhead}[2][0]{#2}
29 \renewcommand{\dropchapter}[1]{}
30 \renewcommand*{\undodrop}{}}
31 }{% not memoir
32 \newlength{\epigraphwidth}
33 \setlength{\epigraphwidth}{.5\linewidth}
```

```

34 \newcommand{\textflush}{flushleft}
35 \newcommand{\epigraphflush}{flushright}
36 \newcommand{\sourceflush}{flushright}
37 \newcommand*\epigraphsize{\small}
38 \newlength{\epigraphrule}
39 \newlength{\beforeepigraphskip}
40 \newlength{\afterepigraphskip}
41 \newcommand{\epigraphhead}[2][0]{#2}
42 \newcommand{\dropchapter}[1]{}
43 \newcommand*\undodrop(){}
44 }% not memoir
45
46 \let\cleartoevenpage\relax% also in nextpage
47 \newcommand{\cleartoevenpage}[1][]{}

48 \newif\ifepigraphnoindent
49 \newcommand\epigraphnoindent{\epigraphnoindenttrue}

```

File 121 **l warp-epsfig.sty**

§ 221 Package **epsfig**

Pkg epsfig **epsfig** is emulated for use by **l warp**.

 Only the L^AT_EX2e syntax is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{epsfig}[2017/06/25]

A few additional keys to capture the filename:

```

2 \RequirePackage{graphics}
3
4 \define@key{igraph}{file}{%
5   \xdef\LWR@epsfig@filename{\#1}%
6 }
7
8 \define@key{igraph}{figure}{%
9   \xdef\LWR@epsfig@filename{\#1}%
10 }
11
12 \define@key{igraph}{prolog}{}
13
14 \define@key{igraph}{silent}{}[]{}

```

The captured filename is used as the argument to **\includegraphics**:

```

15 \newcommand{\epsfig}[1]{\includegraphics[#1]{\LWR@epsfig@filename}}
16
17 \newcommand{\psfig}[1]{\includegraphics[#1]{\LWR@epsfig@filename}}

```

File 122 l warp-epstopdf.sty**§ 222 Package epstopdf**

Pkg epstopdf Previous versions of l warp had a nullified version, but now epstopdf-base is supported. l warp-epstopdf becomes a placeholder to overwrite previous versions.

See package epstopdf-base for details.

for HTML output: 1 \LWR@ProvidesPackagePass{epstopdf}[2016/05/15]

File 123 l warp-epstopdf-base.sty**§ 223 Package epstopdf-base**

Pkg epstopdf-base

Images with an .eps extension will be converted to .pdf. The HTML output uses the .svg version, so use

⚠ **convert to .svg**
Enter ⇒ **l warpmk pdftosvg <listofPDFfiles>**
to generate .svg versions.

for HTML output: 1 \LWR@ProvidesPackagePass{epstopdf-base}[2016/05/15]

Redefine to remember the image filename, replacing .pdf with .svg. Use the epstopdf print version inside a lateximage.

```
2 \newcommand*{\LWR@HTML@ETE@OrgGin@setfile}[3]{%
3   \edef\LWR@tempone{\#3}%
4   \StrSubstitute{\LWR@tempone}{.pdf}{.svg}[\LWR@tempone]%
5   \StrSubstitute{\LWR@tempone}{.PDF}{.SVG}[\LWR@tempone]%
6   \xdef\LWR@parsedfilename{\LWR@tempone}%
7 }%
8 %
9 \LWR@formatted{ETE@OrgGin@setfile}
```

\includegraphics in HTML mode redefines \Gin@setfile to be \LWR@HTML@Gin@setfile, which is now redirected to epstopdf's version:

```
10 \renewcommand*{\LWR@HTML@Gin@setfile}[3]{%
11   \ETE@Gin@setfile{\#1}{\#2}{\#3}%
12 }
```

Allow .eps images to be found if a suffix is not provided:

```

13 \AtBeginDocument{
14 \DeclareGraphicsExtensions{%
15   .eps,.EPS,.svg,.SVG,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG%
16 }
17 \DeclareGraphicsRule{.svg}{svg}{.svg}{}
18 \DeclareGraphicsRule{.SVG}{svg}{.SVG}{}
19 }
```

Likewise when inside a `lateximage`:

```

20 \appto\LWR@restoreorigformatting{%
21 \DeclareGraphicsExtensions{%
22   .eps,.EPS,.pdf,.PDF,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG%
23 }%
24 }
```

File 124 **lwarf-eqlist.sty**

§ 224 Package **eqlist**

Pkg `eqlist` `eqlist` is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{eqlist}[2002/08/15]

```

2 \newenvironment{eqlist}[1][] {\description}{\enddescription}
3 \newenvironment{eqlist*}[1][] {\description}{\enddescription}
4 \newenvironment{Eqlist}[2][] {\description}{\enddescription}
5 \newenvironment{Eqlist*}[2][] {\description}{\enddescription}
6 \newcommand*\longitem[1][]{\item[#1]}
7 \newcommand*\eqlistinit(){}
8 \newcommand*\eqliststarinit(){}
9 \newcommand*\eqlistinitpar(){}
10 \def\eqlistlabel#1{#1}
11 \newcommand{\eqlistauto}[1]{}
12 \newcommand{\eqlistnoauto}{}  

```

File 125 **lwarf-eqparbox.sty**

§ 225 Package **eqparbox**

(Emulates or patches code by SCOTT PAKIN.)

Pkg `eqparbox` `eqparbox` is patched for use by `lwarf`.

for HTML output: 1 \LWR@ProvidesPackagePass{eqparbox}[2017/09/03]

```

2 \NewDocumentCommand{\LWR@HTML@eqparbox}{O{t} O{} O{t} m +m}{%
3   {%
4     \minipagefullwidth%
```

```

5      \parbox[#1][#2][#3]{\linewidth}{#5}%
6    }%
7 }
8 \LWR@formatted{eqparbox}
9
10 \NewDocumentCommand{\LWR@HTML@eqmakebox}{o o m}{%
11   \makebox[#2]{#3}%
12 }
13 \LWR@formatted{eqmakebox}
14
15 \NewDocumentCommand{\LWR@HTML@eqframebox}{o o m}{%
16   \framebox[#2]{#3}%
17 }
18 \LWR@formatted{eqframebox}
19
20 \NewDocumentEnvironment{\LWR@HTML@eqminipage}{O{t} O{} O{t} m}{%
21 {%
22   \begingroup%
23   \minipagewidth%
24   \minipage[#1][#2][#3]{\linewidth}%
25 }%
26 {%
27   \endminipage%
28   \endgroup%
29 }
30
31 \newcommand*{\LWR@HTML@eqboxwidth}[1]{.25\linewidth}
32 \LWR@formatted{eqboxwidth}
33
34 \newcommand*{\LWR@HTML@eqsetminwidth}[2]{}
35 \newcommand*{\LWR@HTML@eqsetmaxwidth}[2]{}
36
37 \newcommand*{\LWR@HTML@eqsetminwidthto}[2]{}
38 \newcommand*{\LWR@HTML@eqsetmaxwidthto}[2]{}

```

File 126 **l warp-errata.sty**

§ 226 Package **errata**

(Emulates or patches code by MICHAEL KOHLHASE.)

Pkg errata errata is patched for use by l warp.

This is for v0.3 of errata. A newer version of errata with more features is under development, at which time the l warp version will have to be updated.

for HTML output Macros are being defined with the math dollar, so enable the HTML version during package loading:

1 \StartDefiningMath

Now load the package:

2 \LWR@ProvidesPackagePass{errata}[2006/11/12]

Patches for dynamic inline math:

```

3 \xpatchcmd{\erratumAdd}
4   {$_a^{\arabic{erratum}}$}
5 %   {\inlinemathother$_a^{\arabic{erratum}}$\inlinemathnormal}
6   {\textsubscript{a}\textsuperscript{\arabic{erratum}}}
7   {}
8   {\LWR@patcherror{erratum}{erratumAdd}}
9
10 \xpatchcmd{\erratumDelete}
11   {$_d^{\arabic{erratum}}$}
12 %   {\inlinemathother$_d^{\arabic{erratum}}$\inlinemathnormal}
13   {\textsubscript{d}\textsuperscript{\arabic{erratum}}}
14   {}
15   {\LWR@patcherror{erratum}{erratumDelete}}
16
17 \xpatchcmd{\erratumReplace}
18   {$_r^{\arabic{erratum}}$}
19 %   {\inlinemathother$_r^{\arabic{erratum}}$\inlinemathnormal}
20   {\textsubscript{r}\textsuperscript{\arabic{erratum}}}
21   {}
22   {\LWR@patcherror{erratum}{erratumReplace}}
23
24 \xpatchcmd{\erratum}
25   {$_a$}
26 %   {\inlinemathother$_a$\inlinemathnormal}
27   {\textsubscript{a}}
28   {}
29   {\LWR@patcherror{erratum}{erratumDelete}}
30
31 \xpatchcmd{\erratum}
32   {$_d^{\@thefnmark}$}
33 %   {\inlinemathother$_d^{\@thefnmark} $\inlinemathnormal}
34   {\textsubscript{d}\textsuperscript{\@thefnmark}}
35   {}
36   {\LWR@patcherror{erratum}{eDelete}}
37
38 \xpatchcmd{\erratum}
39   {$_r^{\@thefnmark}$}
40 %   {\inlinemathother$_r^{\@thefnmark} $\inlinemathnormal}
41   {\textsubscript{r}\textsuperscript{\@thefnmark}}
42   {}
43   {\LWR@patcherror{erratum}{eReplace}}

```

Finish the current page's errata before closing and reloading the list:

44 \preto\PrintErrata{\LWR@orignewpage}

No longer defining math macros with the HTML \$:

45 \StopDefiningMath

File 127 **lwarp-eso-pic.sty**

§ 227 Package **eso-pic**

(Emulates or patches code by ROLF NIEPRASCHK.)

Pkg **eso-pic** **eso-pic** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{eso-pic}[2018/04/12]

```

2 \newcommand*\LenToUnit(){}
3 \newcommand{\AtPageUpperLeft}[1]{}
4 \newcommand{\AtPageLowerLeft}[1]{}
5 \newcommand{\AtPageCenter}[1]{}
6 \newcommand{\AtStockLowerLeft}[1]{}
7 \newcommand{\AtStockUpperLeft}[1]{}
8 \newcommand{\AtStockCenter}[1]{}
9 \newcommand{\AtTextUpperLeft}[1]{}
10 \newcommand{\AtTextLowerLeft}[1]{}
11 \newcommand{\AtTextCenter}[1]{}
12 \NewDocumentCommand{\AddToShipoutPictureBG}{s +m} {}

13 \newcommand{\AddToShipoutPicture}{\AddToShipoutPictureBG}
14 \NewDocumentCommand{\AddToShipoutPictureFG}{s +m} {}
15 \newcommand*\ClearShipoutPictureBG(){}
16 \newcommand*\ClearShipoutPicture(){}
17 \newcommand*\ClearShipoutPictureFG(){}
18 \newcommand{\gridSetup}[6]{}{}
```

File 128 **lwarp-etoc.sty**

§ 228 Package **etoc**

Pkg **etoc** **etoc** is ignored. All commands are nullified.

⚠ **\tableofcontents with \ref** The **etoc** package uses a non-standard syntax which looks ahead after a **\tableofcontents** for a following **\ref**. These **\refs** appear in the HTML result unless they are removed. Where a **\tableofcontents** is followed by **\ref**, and perhaps also **\label** as well, enclose all of them inside **\warpprintonly**:

```
\warpprintonly{\tableofcontents \ref{toc:abc} \label{toc:def}}
```

or place all code related to a local **\tableofcontents** inside a **warpprint** environment.

⚠ **home page** Be sure to keep the initial **\tableofcontents** on the home page, perhaps in its own **\warpHTMLonly** macro or **warpHTML** environment.

for HTML output: 1 \LWR@ProvidesPackageDrop{etoc}[2019/11/17]

```
2 \def\etocsetlevel#1#2{}
3 \def\etocskipfirstprefix{}
4 \let\etocthename  \@empty
5 \let\etocthenumber \@empty
6 \let\etocthepage  \@empty
7 \let\etocthelinkedname \@empty
8 \let\etocthelinkednumber \@empty
9 \let\etocthelinkedpage \@empty
10 \let\etocthelink  \@firstofone % prior to 1.08j its was \let to \@empty
11 \DeclareRobustCommand*{\etocname} {}
12 \DeclareRobustCommand*{\etocnumber}{}
13 \DeclareRobustCommand*{\etocpage} {}
14 \DeclareRobustCommand*{\etoclink} {\@firstofone}
15 \DeclareRobustCommand*{\etocifnumbered}{\@firstoftwo}
16 \DeclareRobustCommand*{\etociffirst}{\@firstoftwo}
17 \DeclareRobustCommand*\etocifwasempty{\@firstoftwo}
18 \let\etocaftertitlehook \@empty
19 \let\etocaftercontentshook \@empty
20 \def\etocstableofcontents{}
21 \newcommand*\localtableofcontents{}
22 \newcommand*\localtableofcontentswithrelativedepth[1]{}
23 \newcommand\etocsettocstyle[2]{}
24 \long\def\etocsetstyle#1#2#3#4#5{}
25 \def\etocfontminustwo {\normalfont \LARGE \bfseries}
26 \def\etocfontminusone {\normalfont \large \bfseries}
27 \def\etocfontzero   {\normalfont \large \bfseries}
28 \def\etocfontone   {\normalfont \normalsize \bfseries}
29 \def\etocfonttwo   {\normalfont \normalsize}
30 \def\etocfontthree {\normalfont \footnotesize}
31 \def\etocsepminustwo {4ex \@plus .5ex \@minus .5ex}
32 \def\etocsepminusone {4ex \@plus .5ex \@minus .5ex}
33 \def\etocsepzero    {2.5ex \@plus .4ex \@minus .4ex}
34 \def\etocsepone     {1.5ex \@plus .3ex \@minus .3ex}
35 \def\etocseptwo     {.5ex \@plus .1ex \@minus .1ex}
36 \def\etocsepthree   {.25ex \@plus .05ex \@minus .05ex}
37 \def\etocbaselinespreadminustwo {1}
38 \def\etocbaselinespreadminusone {1}
39 \def\etocbaselinespreadzero   {1}
40 \def\etocbaselinespreadone   {1}
41 \def\etocbaselinespreadtwo   {1}
42 \def\etocbaselinespreadthree {.9}
43 \def\etocminustwoleftmargin {1.5em plus 0.5fil}
44 \def\etocminustworightmargin {1.5em plus -0.5fil}
45 \def\etocminusoneleftmargin {1em}
46 \def\etocminusonerightmargin {1em}
47 \def\etococlineleaders
48      {\hbox{\normalfont\normalsize\hb@xt@2ex {\hss.\hss}}}
49 \def\etocabbrevpagename {p.~}
50 \def\etocpartname      {Part}% modified 1.08b
51 \def\etocbookname      {Book}
52 \def\etocdefaultlines{}
53 \def\etocabovetocskip{3.5ex \@plus 1ex \@minus .2ex}
54 \def\etocbelowtocskip{3.5ex \@plus 1ex \@minus .2ex}
55 \def\etoccolumnsep{2em}
56 \def\etocmulticolsep{0ex}
```

```
57 \def\etocmulticolpretolerance{-1}
58 \def\etocmulticoltolerance{200}
59 \def\etocdefaultnbcol{2}
60 \def\etocinnertopsep{2ex}
61 \newcommand\etocmulticolstyle[2][]{}
62 \def\etocinnerbottomsep{3.5ex}
63 \def\etocinnerleftsep{2em}
64 \def\etocinnersrightsep{2em}
65 \def\etocoprule{\hrule}
66 \def\etocleftrule{\vrule}
67 \def\etocrightrule{\vrule}
68 \def\etocbottomrule{\hrule}
69 \def\etocoprulecolorcmd{\relax}
70 \def\etocbottomrulecolorcmd{\relax}
71 \def\etocleftrulecolorcmd{\relax}
72 \def\etocrightrulecolorcmd{\relax}
73 \newcommand*\etocruledstyle[2][]{}
74 \def\etocframedmphook{\relax}
75 \long\def\etocbkgcolorcmd{\relax}
76 \newcommand*\etocframedstyle[2][]{}
77 \def\etocmulticol{}
78 \def\etocruled{}
79 \def\etocframed{}
80 \def\etoclocalmulticol{}
81 \def\etoclocalruled{}
82 \def\etoclocalframed{}
83 \def\etocarticlestyle{}
84 \def\etocarticlestylenomarks{}
85 \def\etocbookstyle{}
86 \def\etocbookstylenomarks{}
87 \let\etocreportstyle\etocbookstyle
88 \let\etocreportstylenomarks\etocbookstylenomarks
89 \def\etocmemoirtocotocfmt #1#2{}
90 \def\etocmemoirstyle{}
91 \def\etocscrartclstyle{}
92 \let\etocscrbookstyle\etocscrartclstyle
93 \let\etocscrreprtstyle\etocscrartclstyle
94 \def\etocstandarddisplaystyle{\etocarticlestyle}
95 \newcommand*\etocmarkboth[1]{}
96 \newcommand*\etocmarkbothonuc[1]{}
97 \newcommand\etoc tocstyle[3][section]{}
98 \newcommand\etoc tocstylewithmarks[4][section]{}
99 \newcommand\etoc tocstylewithmarksnouc[4][section]{}
100 \def\etocignoretoctocdepth{}
101 \def\etocsettocdepth[1]{}
102 \def\etocdepthtag #1{\Etoc@depthtag }
103 \def\Etoc@depthtag #1{}
104 \def\etocignoredepthtags {}
105 \def\etocbeydepthtags {}
106 \def\etocsettagdepth #1#2{}
107 \def\invisibletableofcontents {}
108 \def\invisiblerealtableofcontents{}
109 \def\etocsetnexttocdepth #1{}
110 \def\etocsetlocaltop #1{\Etoc@set@localtop}
111 \def\Etoc@set@localtop #1{}
```

```
112 \def\etocstandardlines {}
113 \def\etocloclines      {}
114 \let\etocaftertohook  \@empty
115 \let\etocbeforetitlehook \@empty
116 \appto\tableofcontents{\def\tableofcontents{}}
```

File 129 l warp-eurosym.sty**§ 229 Package eurosym**

(Emulates or patches code by HENRIK THEILING.)

Pkg eurosym eurosym is patched for use by l warp.

for HTML output:

```
1 \LWR@ProvidesPackagePass{eurosym}[1998/08/06]

2 \renewrobustcmd\officialemuro{\HTMLentity{euro}}
3 \let\geneuro\officialemuro
4 \let\geneuromarrow\officialemuro
5 \let\geneurowide\officialemuro
6 \let\euromuro\officialemuro
7 \renewrobustcmd\europbars{}
8 \renewrobustcmd\europbarsnarrow{}
9 \renewrobustcmd\europbarswide{}
```

File 130 l warp-everypage.sty**§ 230 Package everypage**

(Emulates or patches code by SERGIO CALLEGARI.)

Pkg everypage everypage is ignored.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{everypage}[2007/06/20]

2 \newcommand*\AddEverypageHook[1]{}
3 \newcommand*\AddThispageHook[1]{}
```

File 131 l warp-everyshi.sty**§ 231 Package everyshi**

(Emulates or patches code by MARTIN SCHRÖDER.)

Pkg everyshi ignored.

for HTML output: Discard all options for l warp-everyshi:

```
1 \LWR@ProvidesPackageDrop{everyshi}[2001/05/15]
```

```
2 \newcommand*\{\\EveryShipout}[1]{}
3 \newcommand*\{\\AtNextShipout}[1]{}
```

File 132 **l warp-extarrows.sty**

§ 232 Package **extarrows**

(Emulates or patches code by HUYNH KY ANH.)

Pkg extarrows extarrows is used as-is for SVG math, and emulated for MATHJAX.

for HTML output:

```
1 \\LWR@ProvidesPackagePass{extarrows}[2008/05/15]

2 \\begin{warpMathJax}
3 \\CustomizeMathJax{\\Newextarrow\\xLongleftarrow[10,10]{0x21D0}}
4 \\CustomizeMathJax{\\Newextarrow\\xLongrightarrow[10,10]{0x21D2}}
5 \\CustomizeMathJax{\\Newextarrow\\xLongleftrightarrow[10,10]{0x21D4}}
6 \\CustomizeMathJax{\\Newextarrow\\xLeftrightarrow[10,10]{0x21D4}}
7 \\CustomizeMathJax{\\Newextarrow\\xlongleftrightarrow[10,10]{0x2194}}
8 \\CustomizeMathJax{\\Newextarrow\\xleftrightarrow[10,10]{0x2194}}
9 \\CustomizeMathJax{\\let\\xlongleftarrow\\xleftarrow}
10 \\CustomizeMathJax{\\let\\xlongrightarrow\\xrightarrow}
11 \\end{warpMathJax}
```

File 133 **l warp-extremarks.sty**

§ 233 Package **extremarks**

(Emulates or patches code by PIET VAN OOSTRUM.)

Pkg extremarks extremarks is ignored.

for HTML output:

Discard all options for l warp-extremarks:

```
1 \\LWR@ProvidesPackageDrop{extremarks}[2019/01/31]

2 \\newcommand*{\\extremarks}[2]{}
3 \\newcommand*{\\firstleftxmark}{}
4 \\newcommand*{\\lastleftxmark}{}
5 \\newcommand*{\\firstrightxmark}{}
6 \\newcommand*{\\lastrightxmark}{}
7 \\newcommand*{\\firstxmark}{}
8 \\newcommand*{\\lastxmark}{}
9 \\newcommand*{\\topxmark}{}
10 \\newcommand*{\\topleftxmark}{}
11 \\newcommand*{\\toprightxmark}{}
12 \\newcommand*{\\firstleftmark}{}
13 \\newcommand*{\\lastrightmark}{}
14 \\newcommand*{\\firstrightmark}{}
15 \\newcommand*{\\lastleftmark}{}
```

File 134 **l warp-fancybox.sty**

§ 234 Package **fancybox**

(Emulates or patches code by TIMOTHY VAN ZANDT.)

Pkg fancybox fancybox is supported with some patches.

framed equation example fancybox's documentation has an example `FramedEqn` environment which combines math, `\Sbox`, a `minipage`, and an `\fbox`. This combination requires that the entire environment be enclosed inside a `\teximage`, which is done by adding `\teximage` at the very start of `FramedEqn`'s beginning code, and `\endteximage` at the very end of the ending code. Unfortunately, the `HTML alt` attribute is not used here.

```
\newenvironment{FramedEqn}
{
  \teximage% NEW
  \setlength{\fboxsep}{15pt}
  ...
  \[\fbox{\TheSbox}\]
  \endteximage% NEW
}
```

framing alternatives `\fbox` works with `fancybox`. Also see `l warp`'s `\fboxBlock` macro and `fminipage` environment for alternatives to `\fbox` for framing environments.

framed table example The `fancybox` documentation's example framed table using an `\fbox` containing a `tabular` does not work with `l warp`, but the `FramedTable` environment does work if `\fbox` is replaced by `\fboxBlock`. This method loses `HTML` formatting. A better method is to enclose the table's contents inside a `fminipage` environment. The caption may be placed either inside or outside the `fminipage`:

```
\begin{table}
\begin{fminipage}{\linewidth}
\begin{tabular}{lr}
...
\end{tabular}
\end{fminipage}
\end{table}
```

⚠️ framed verbatim `l warp` does not support the `verbatim` environment inside a `span`, `box`, or `fancybox`'s `\Sbox`, but a `verbatim` may be placed inside a `fminipage`. The `fancybox` documentation's example `FramedVerb` may be defined as:

```
\newenvironment{FramedVerb}[1] % width
{
  \VerbatimEnvironment
  \fminipage{#1}
  \begin{Verbatim}
}{%
  \end{Verbatim}
  \endfminipage
}
```

framed \VerbBox fancybox's \VerbBox may be used inside \fbox.

indented alignment \Verbatim, \LVerbatimInput, and \LUseVerbatim indent with horizontal space which may not line up exactly with what *pdftotext* detects. Some lines may be off slightly in their left edge.

fancybox, fancyvrb If using fancybox or fancyvrb with \VerbatimFootnotes, and using footnotes in a sectioning command or display math, use \footnotemark and \footnotetext:

⚠ \VerbatimFootnotes

⚠ sectioning or displaymath

```
\subsection[Subsection Name]{Subsection Name\protect\footnotemark}
\footnotetext{A footnote with \verb+verbatim+.}
```

and likewise for equations or display math.

At present there is a bug such that paragraph closing tags are not present in footnotes when \VerbatimFootnotes are selected. The browser usually compensates.

1 \LWR@ProvidesPackagePass{fancybox}[2010/05/15]

After the preamble is loaded, after any patches to Verbatim:

```
2 \AfterEndPreamble{
3 \LWR@traceinfo{Patching fancybox.}
```

\VerbatimFootnotes Patched to use the new version.

```
4 \def\VerbatimFootnotes{%
5 \let@\footnotetext{\V@footnotetext}%
6 \let\lWR@footnotetext\V@footnotetext% lwarp
7 }
```

\V@footnotetext Patches in a subset of lwarp's \LWR@footnotetext to the fancyvrb version of \V@footnotetext.

```
8 \def\V@footnotetext{%
9 \LWR@traceinfo{\V@footnotetext}%
10 \global\setbox\lWR@footnotebox=\vbox\bgroup%
```

Add to any current footnotes:

```
11 \unvbox\lWR@footnotebox%
```

Remember the footnote number for \ref:

```
12 \protected@edef\@currentlabel{%
```

```

13      \csname p@footnote\endcsname\@thefnmark%
14  }% @currentlabel

```

Use HTML superscripts in the footnote even inside a `\textrimage`:

```

15  \renewrobustcmd{\textsuperscript}[1]{\LWR@htmlspan{sup}{##1}}%

```

Use paragraph tags if in a tabular data cell or a `\textrimage`:

```

16  \ifthenelse{%
17      \boolean{LWR@doingstartpars} \AND%
18      \cnttest{\value{LWR@lateximagedepth}}{=}{0}%
19  }%
20  {}%
21  {\LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline}%

```

Append the footnote to the list:

```

22  \makefntext{}%

```

The footnote text will follow after `\V@@@footnotetext` has completed.

```

23  \bgroup%
24  \aftergroup{\V@@@footnotetext}%
25  \ignorespaces%
26 }%
27 }% AfterEndPreamble
28 \renewcommand*{\@shadowbox}[1]{%
29 \ifbool{FormatWP}{%
30 {\InlineClass[border:1px solid black]{shadowbox}{#1}}%
31 {\InlineClass{shadowbox}{#1}}%
32 }%
33
34 \renewcommand*{\@doublebox}[1]{%
35 \ifbool{FormatWP}{%
36 {\InlineClass[border:1px double black]{doublebox}{#1}}%
37 {\InlineClass{doublebox}{#1}}%
38 }%
39
40 \renewcommand*{\@ovalbox}[2]{%
41 \ifbool{FormatWP}{%
42 {\InlineClass[border:1px solid black; border-radius:1ex]{ovalbox}{#2}}%
43 }%
44 \ifthenelse{\isequivalentto{#1}{\thinlines}}{%
45 {\InlineClass{ovalbox}{#2}}%
46 {\InlineClass{Ovalbox}{#2}}%
47 }%
48 }

```

Convert minipages, parboxes, and lists into linear text using the `\LWR@nestspan` environment:

```

49 \let\LWR@origSbox\Sbox
50
51 \def\Sbox{\LWR@origSbox\lwr@nestspan}
52

```

```

53
54 \let\LWR@origendSbox\endSbox
55
56 \def\endSbox{\endLWR@nestspan\LWR@origendSbox}

```

`Beqnarray` is adapted for `MATHJAX` or enclosed inside a `lateximage`:

```

57 \RenewEnviron{Beqnarray}{%
58 {\LWR@eqnarrayfactor}%
59 %
60 \csgpreto{Beqnarray*}{\boolfalse{\LWR@numbereqnarray}}}

```

`\GenericCaption` is enclosed in an `HTML` block:

```

61 \renewcommand{\GenericCaption}[1]{%
62 \LWR@figcaption%
63 \LWR@isolate{#1}%
64 \endLWR@figcaption%
65 }

```

`Btrivlist` is enclosed in an `HTML` block. This is a tabular, and does not use `\item`.

```

\ttrivlist {\langle l/c/r\rangle [\langle t/c/b\rangle]
66 \RenewDocumentEnvironment{Btrivlist}{m o}
67 {%
68     \LWR@stoppars%
69     \begin{BlockClass}{Btrivlist}%
70     \tabular{#1}%
71 }
72 {%
73     \endtabular%
74     \end{BlockClass}%
75     \LWR@startpars%
76 }

```

`Btrivlist` is also neutralized when used inside a span:

```

77 \AtBeginEnvironment{\LWR@nestspan}{%
78 \RenewDocumentEnvironment{Btrivlist}{m o}{}{}%
79 }

```

`lwarf's handling of \item is patched to accept fancybox's optional arguments:`

```

80 \let\LWRFB@origitemizeitem\LWR@itemizeitem
81 \let\LWRFB@origdescitem\LWR@descitem
82
83 \RenewDocumentCommand{\LWR@itemizeitem}{d()o}{%
84     \IfValueTF{#2}{%
85         \LWRFB@origitemizeitem[#2]%
86     }{%
87         \LWRFB@origitemizeitem%
88     }%
}

```

```

89 }
90
91 \RenewDocumentCommand{\LWR@descitem}{d()o}{%
92     \IfValueTF{#2}{%
93         \LWRFB@origdescitem[#2]\sim%
94     }{%
95         \LWRFB@origdescitem%
96     }%
97 }

98 \RenewDocumentCommand{\LWR@nestspanitem}{d()}{%
99 \if@newlist\else{\LWR@htmltagc{br /}}\fi%
100 \LWR@origitem%
101 }

```

The various boxed lists become regular lists:

```

102 \renewenvironment{Bitemize}[1][]{{\begin{itemize}}}{\end{itemize}}
103 \renewenvironment{Benumerate}[1][]{{\begin{enumerate}}}{\end{enumerate}}
104 \renewenvironment{Bdescription}[1][]{{\begin{description}}}{\end{description}}

```

\boxput simply prints one then the other argument, side-by-side instead of above and behind:

```

105 \RenewDocumentCommand{\boxput}{s d() m m}{%
106 \IfBooleanTF{#1}{#3\quad\#4\quad\#4\quad\#3}{%
107 }

```

Neutralized commands:

```

108 \RenewDocumentCommand{\fancyput}{s d() m}{}
109 \RenewDocumentCommand{\thisfancyput}{s d() m}{}
110
111 \RenewDocumentCommand{\fancypage}{m m}{}
112 \RenewDocumentCommand{\thisfancypage}{m m}{}
113
114 \def\LandScape#1{}
115 \def\endLandScape{}
116 \def\@Landscape#1#2#3{}
117 \def\endLandscape{}

```

Low-level patches for `UseVerbatim` and friends:

```

118 \let\LWRFB@UseVerbatim\UseVerbatim
119 \renewcommand*\UseVerbatim[1]{%
120 \LWR@atbeginverbatim{3}{Verbatim}%
121 \LWRFB@UseVerbatim{#1}%
122 \LWR@afterendverbatim{.5}%
123 }
124
125 \let\LWRFB@LUseVerbatim\LUseVerbatim
126

```

```
127 \renewcommand*\LUseVerbatim}[1]{%
128 \LWR@atbeginverbatim{3}{\Verbatim}%
129 \noindent%
130 \LWRFB@LUseVerbatim{#1}%
131 \LWR@afterendverbatim{.5}%
132 }%
133 %
134 \def\@BUseVerbatim[#1]#2{%
135 \LWR@atbeginverbatim{3}{\BVerbatim}%
136 \LWRFB@UseVerbatim{#2}%
137 \LWR@afterendverbatim{.5}%
138 }
```

File 135 **l warp-fancyhdr.sty**

§ 235 Package **fancyhdr**

(Emulates or patches code by PIET VAN OOSTRUM.)

Pkg fancyhdr fancyhdr is ignored.

for HTML output: Discard all options for l warp-fancyhdr:

```
1 \LWR@ProvidesPackageDrop{fancyhdr}[2019/01/31]

2 \newcommand*\fancyhead}[2][]{%
3 \newcommand*\fancyfoot}[2][]{%
4 \newcommand*\fancyhf}[2][]{%
5 \newcommand*\fancypagestyle}[2]{}%
6 \newcommand*\lhead}[2][]{%
7 \newcommand*\chead}[2][]{%
8 \newcommand*\rhead}[2][]{%
9 \newcommand*\lfoot}[2][]{%
10 \newcommand*\cfoot}[2][]{%
11 \newcommand*\rfoot}[2][]{%
12 \newcommand*\headrulewidth}{}%
13 \newcommand*\footrulewidth}{}%
14 \newcommand*\headrule}{}%
15 \newcommand*\footrule}{}%
16 \newlength{\headwidth}%
17 \newcommand*\fancyheadoffset}[2][]{%
18 \newcommand*\fancyfootoffset}[2][]{%
19 \newcommand*\fancyhffoffset}[2][]{%
20 \newcommand*\ifffloatpage}[2]{#2}%
21 \newcommand*\ifffloattop}[2]{#2}%
22 \newcommand*\iffbotfloat}[2]{#2}%
23 \newcommand*\ifffootnote}[2]{#2}
```

File 136 **l warp-fancyref.sty**

§ 236 Package **fancyref**

Pkg fancyref fancyref is emulated.

for HTML output: 1 \LWR@ProvidesPackagePass{fancyref}[1999/02/03]

To remove the margin option, if \fancyrefhook is anything other than the paren option, then force it to the default instead. (Comparing to the margin option was not possible since l warp has revised the meaning of \mbox so the comparison failed.)

```
2 \newcommand*\LWRfref@parenfancyrefhook[1]{#1}
3
4 \ifdefstreq{\fancyrefhook}{\LWRfref@parenfancyrefhook}
5 {}{
6   \renewcommand*\fancyrefhook[1]{#1}%
7 }
```

Modified to ignore the page number and variorref.

```
8 \renewcommand*\f@ref[4]{%
9   \@ifundefined{#1r@#2@#3}{%
10     \PackageError{l warp-fancyref}{%
11       \backslashchar#1ref\space format ``#2''%
12       undefined\MessageBreak
13       for label type ``#3''%
14     }{%
15       The format ``#2'' was not defined for the label type
16       ``#3''\MessageBreak
17       and the \backslashchar#1ref\space command. Perhaps
18       you have only misspelled its name.\MessageBreak
19       Otherwise you will have to define it with
20       \protect\new#1refformat\MessageBreak
21       prior to using it.%
22     }%
23   }{%
24     \fancyrefhook{%
25       \@nameuse{#1r@#2@#3}%
26       {\ref{#3\fancyrefargdelim#4}}%
27 %       {\pageref{#3\fancyrefargdelim#4}}% original
28 %       {\@fancyref@page@ref{#3\fancyrefargdelim#4}}% original
29       {}% l warp
30       {}% l warp
31     }%
32   }%
33 }%
```

File 137 **l warp-fancytabs.sty**

§ 237 Package **fancytabs**

Pkg fancytabs fancytabs is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{fancytabs}[2016/03/29]

```

2 \newcommand{\fancytab}[3][RIGHT]{}
3 \newcommand{\fancytabsStyle}[1]{}
4 \newcommand{\fancytabsHeight}[1]{}
5 \newcommand{\fancytabsWidth}[1]{}
6 \newcommand{\fancytabsCount}[1]{}
7 \newcommand{\fancytabsLeftColor}[1]{}
8 \newcommand{\fancytabsRightColor}[1]{}
9 \newcommand{\fancytabsTop}[1]{}
10 \newcommand{\fancytabsTextVPos}[1]{}
11 \newcommand{\fancytabsTextHPos}[1]{}
12 \newcommand{\fancytabsGap}[1]{}
13 \newcommand{\fancytabsFloor}[1]{}
14 \newcommand{\fancytabsRotate}[1]{}
```

File 138 **l warp-fancyvrb.sty**

§ 238 Package **fancyvrb**

(Emulates or patches code by TIMOTHY VAN ZANDT.)

Pkg fancyvrb fancyvrb is supported with some patches.

HTML classes The fancy verbatim environment is placed inside a <div> of class fancyvrb. The label is placed inside a <div> of class fancyvrblabel. The verbatim text itself is placed inside a <div> of class verbatim.

If using **fancybox** or **fancyvrb** with **\VerbatimFootnotes**, and using footnotes in a sectioning command or display math, use **\footnotemark** and **\footnotetext**:

\subsection[Subsection Name]{Subsection Name\protect\footnotemark}\footnotetext{A footnote with \verb+verbatim+.}

and likewise for equations or display math.

At present there is a bug such that paragraph closing tags are not present in footnotes when **\VerbatimFootnotes** are selected. The browser usually compensates.

1 \AtBeginDocument{\RequirePackage{xcolor}}% for \convertcolorspec

```

2
3 \LWR@ProvidesPackagePass{fancyvrb}[2008/02/07]
```

Initial default patch for fancyvrb:

```

4 \fvset{frame=none}%

```

After the preamble is loaded, after any patches to Verbatim:

```

5 \AfterEndPreamble{
6 \LWR@traceinfo{Patching fancyvrb.}
```

\VerbatimFootnotes Patched to use the new version.

```

7 \def\VerbatimFootnotes{%
8 \let\@footnotetext\V@footnotetext%
9 \let\footnote\V@footnote%
10 \let\LWR@footnotetext\V@footnotetext% lwarp
11 }
```

\V@footnotetext Patches in a subset of lwarp's \LWR@footnotetext to the fancyvrb version of \V@footnotetext.

```

12 \def\V@footnotetext{%
13 \LWR@traceinfo{\V@footnotetext}%
14 \global\setbox\LWR@footnotebox=\vbox\bgroup%
```

Add to any current footnotes:

```

15 \unvbox\LWR@footnotebox%
```

Remember the footnote number for \ref:

```

16 \protected@edef@\currentlabel{%
17 \csname p@footnote\endcsname\@thefnmark%
18 }% @currentlabel
```

Use HTML superscripts in the footnote even inside a lateximage:

```

19 \renewrobustcmd{\textsuperscript}{\LWR@htmlspan{sup}{##1}}%
```

Use paragraph tags if in a tabular data cell or a lateximage:

```

20 \ifthenelse{%
21 \boolean{\LWR@doingstartpars} \AND%
22 \cnttest{\value{\LWR@lateximagedepth}}{=}{0}%
23 }%
24 {}%
25 {\LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline}%
```

Append the footnote mark to the list:

```

26 \makefnlist{}%
```

The footnote text will follow after \V@@@footnotetext has completed.

```

27 \bgroup%
28 \aftergroup{\V@@@footnotetext}%
29 \ignorespaces%
30 }%
```

```

31 \preto\FVB@Verbatim{\LWR@forcenewpage}
32 \preto\LV@Verbatim{\LWR@forcenewpage}
33 % \preto\BVerbatim{\LWR@forcenewpage}% Fails, so done below.

```

Simplified to remove PDF formatting:

```

34 \def\FV@BeginListFrame@Single{%
35   \FV@SingleFrameLine{\z@}%
36 }
37
38 \def\FV@EndListFrame@Single{%
39   \FV@SingleFrameLine{\@ne}%
40 }
41
42 \def\FV@BeginListFrame@Lines{%
43   \FV@SingleFrameLine{\z@}%
44 }
45
46 \def\FV@EndListFrame@Lines{%
47   \FV@SingleFrameLine{\@ne}%
48 }
49
50 \renewcommand*\FV@SingleFrameSep{}}

```

Adds HTML formatting:

```

51 \def\FV@BUseVerbatim#1{%
52   \LWR@atbeginverbatim{#1}{\verb+}%
53   \FV@BVerbatimBegin#1\FV@BVerbatimEnd%
54   \LWR@afterendverbatim{#1}%
55 }

```

\LWR@FVstyle Holds the style of the verbatim.

```
56 \newcommand*\LWR@FVstyle{}
```

The following patches to Verbatim are executed at the start and end of the environment, depending on the choice of frame. Original code is from the fancyvrb package.

```

57 \newcommand*\LWR@fvstartnone{%
58 \LWR@traceinfo{fvstartnone}%
59 % \hbox to\z@{%
60 \BlockClass[\LWR@FVstyle]{fancyvrb}%
61 \LWR@stoppars
62 \ifx\FV@LabelPositionTopLine\relax\else
63   \ifx\FV@LabelBegin\relax\else
64     \FancyVerbRuleColor{\LWR@FVfindbordercolor}%
65     \LWR@htmltagc{%
66       div class="fancyvrblabel" % extra space
67         style="color: \LWR@origpound\LWR@tempcolor"%
68     }%
69   \LWR@print@textrm{\FV@LabelBegin}%

```

\textrm preserves emdash

```
70          \LWR@htmltagc{/div}\LWR@orignewline%
71      \fi
72 \fi
73 \LWR@atbeginverbatim{0}{verbatim}%
74 % }%
75 }
76
77 \newcommand*{\LWR@fvendnone}{%
78 \LWR@traceinfo{fvendnone}%
79 % \hbox to\z@{
80 \LWR@afterendverbatim{0}%
81 \LWR@stoppars%
82 \ifx\FV@LabelPositionBottomLine\relax\else
83     \ifx\FV@LabelEnd\relax\else
84         \FancyVerbRuleColor{\LWR@FVfindbordercolor}%
85         \LWR@htmltagc{%
86             div class="fancyvrblabel" % extra space
87                 style="color: \LWR@origpound\LWR@tempcolor"%
88         }
89         \LWR@print@textrm{\FV@LabelEnd}
90         \LWR@htmltagc{/div}\LWR@orignewline%
91     \fi
92 \fi
93 \endBlockClass
94 }
95
96 \newcommand*{\LWR@fvstartsingle}{%
97 \LWR@traceinfo{fvstartsingle}%
98 \LWR@fvstartnone%
99 \FV@BeginListFrame@Single%
100 }
101
102 \newcommand*{\LWR@fvendsingle}{%
103 \LWR@traceinfo{fvendsingle}%
104 \FV@EndListFrame@Single%
105 \LWR@fvendnone%
106 }
107
108 \newcommand*{\LWR@fvstartline}{%
109 \LWR@traceinfo{fvstartline}%
110 \LWR@fvstartnone%
111 % \setlength{\LWR@templengthone}{\baselineskip}%
112 \FV@BeginListFrame@Lines%
113 % \setlength{\baselineskip}{\LWR@templengthone}%
114 % \setlength{\baselineskip}{5pt}%
115 }
116
117 \newcommand*{\LWR@fvendline}{%
118 \LWR@traceinfo{fvendline}%
119 \FV@EndListFrame@Lines%
120 \LWR@fvendnone%
121 }
```

The following patches select the start/left/right/end behaviors depending on frame. Original code is from the `fancyvrb` package.

```
122 \newcommand*{\LWR@FVfindbordercolor}{%
123   \FancyVerbRuleColor%
124   \LWR@findcurrenttextcolor%
125   \color{black}%
126 }
127
128 % border width of \FV@FrameRule
129 \newcommand*{\LWR@FVborderstyle}[1]{%
130   padding#1: \strip@pt\dimexpr \FV@FrameSep\relax\relax pt ; % space
131   \LWR@FVfindbordercolor\LWR@indentHTMLtwo%
132   border#1: \strip@pt\dimexpr \FV@FrameRule\relax\relax pt % space
133   solid {\FancyVerbRuleColor{\LWR@origpound\LWR@tempcolor}} ; % space
134 }
135
136 \def\FV@Frame@none{%
137   \renewcommand*{\LWR@FVstyle}{\LWR@currenttextcolorstyle}%
138   \let\FV@BeginListFrame\LWR@fvstartnone%
139   \let\FV@LeftListFrame\relax%
140   \let\FV@RightListFrame\relax%
141   \let\FV@EndListFrame\LWR@fvendnone}
142
143 \FV@Frame@none% default values
144
145 \def\FV@Frame@single{%
146   \renewcommand*{\LWR@FVstyle}{%
147     \LWR@currenttextcolorstyle\LWR@indentHTMLtwo%
148     \LWR@FVborderstyle{}%
149   }%
150   \let\FV@BeginListFrame\LWR@fvstartsingl%
151   \let\FV@LeftListFrame\FV@LeftListFrame@Single%
152   \let\FV@RightListFrame\FV@RightListFrame@Single%
153   \let\FV@EndListFrame\LWR@fvendsingle}
154
155 \def\FV@Frame@lines{%
156   \renewcommand*{\LWR@FVstyle}{%
157     \LWR@currenttextcolorstyle\LWR@indentHTMLtwo%
158     \LWR@FVborderstyle{-top}%
159     \LWR@indentHTMLtwo%
160     \LWR@FVborderstyle{-bottom}%
161   }%
162   \let\FV@BeginListFrame\LWR@fvstartline%
163   \let\FV@LeftListFrame\relax%
164   \let\FV@RightListFrame\relax%
165   \let\FV@EndListFrame\LWR@fvendline}
166
167 \def\FV@Frame@topline{%
168   \renewcommand*{\LWR@FVstyle}{%
169     \LWR@currenttextcolorstyle\LWR@indentHTMLtwo%
170     \LWR@FVborderstyle{-top}%
171   }%
172   \let\FV@BeginListFrame\LWR@fvstartline%
173   \let\FV@LeftListFrame\relax%
```

```

174 \let\fv@RightListFrame\relax%
175 \let\fv@EndListFrame\lwr@fvendnone}
176
177 \def\fv@Frame@bottomline{%
178 \renewcommand*{\lwr@fvstyle}{%
179   \lwr@currenttextcolorstyle\lwr@indentHTMLtwo%
180   \lwr@fvborderstyle{-bottom}%
181 }%
182 \let\fv@BeginListFrame\lwr@fvstartnone%
183 \let\fv@LeftListFrame\relax%
184 \let\fv@RightListFrame\relax%
185 \let\fv@EndListFrame\lwr@fvendline}
186
187 \def\fv@Frame@leftline{%
188 \renewcommand*{\lwr@fvstyle}{%
189   \lwr@currenttextcolorstyle\lwr@indentHTMLtwo%
190   \lwr@fvborderstyle{-left}%
191 }%
192 % To define the \fv@FrameFillLine macro (from \fv@BeginListFrame)
193 \ifx\fancyverbfillcolor\relax%
194 \let\fv@FrameFillLine\relax%
195 \else%
196 \tempdima\fv@FrameRule\relax%
197 \multiply\tempdima-\tw@%
198 \edef\fv@FrameFillLine{%
199 {\noexpand\fancyverbfillcolor{\vrule\@width\number\tempdima sp}%
200 \kern-\number\tempdima sp}}%
201 \fi%
202 \let\fv@BeginListFrame\lwr@fvstartnone%
203 \let\fv@LeftListFrame\fv@LeftListFrame@Single%
204 \let\fv@RightListFrame\relax%
205 \let\fv@EndListFrame\lwr@fvendnone}

```

Adds the optional label to the top and bottom edges. Original code is from the `fancyvrb` package.

```

206 \def\fv@SingleFrameLine#1{%
207 %   \hbox to\z@{%
208 %     \kern\leftmargin
209 %     \ifnum#1=\z@\relax
210 %       \let\fv@Label\fv@LabelBegin
211 %     \else
212 %       \let\fv@Label\fv@LabelEnd
213 %     \fi
214 %     \ifx\fv@Label\relax
215 %       \FancyVerbRuleColor{\vrule\@width\ linewidth\ @height\fv@FrameRule}%
216 %     \else
217 %       \ifnum#1=\z@
218 %         \setbox\z@\hbox{\strut\enspace\fv@LabelBegin\enspace\strut}%
219 %         \ifx\fv@LabelPositionTopLine\relax
220 %           \else
221 %             \fi
222 %         \else
223 %           \setbox\z@\hbox{\strut\enspace\fv@LabelEnd\enspace\strut}%
224 %           \ifx\fv@LabelPositionBottomLine\relax

```

```

225      \else
226      \fi
227      \fi
228      \fi
229 %     \hss
230 %     }
231 }
```

Processes each line, adding optional line numbers. Original code is from the `fancyvrb` package.

```

232 \def\ListProcessLine#1{%
233   \hbox to \hsize{%
234 %     \kern\leftmargin
235   \hbox to \VerbatimHTMLWidth {%
236     \ifcscvoid{\FV@LeftListNumber}{}{\kern 2.5em}%
237     \FV@LeftListNumber%
238     \FV@LeftListFrame
239     \FancyVerbFormatLine{#1}%
240     \hss%
241 %     \FV@RightListFrame
242     \FV@RightListNumber%
243   }%
244   \hss% required to avoid underfull hboxes
245 }
246 }
```

Env `BVerbatim`

```

247 \AtBeginEnvironment{BVerbatim}
248 {%
249 \LWR@forcenewpage% instead of \preto
250 \LWR@atbeginverbatim{0}{bverbatim}%
251 }
252
253 \AfterEndEnvironment{BVerbatim}
254 {%
255 \LWR@afterendverbatim{0}%
256 }
```

End of the modifications to make at the end of the preamble:

```
257 } % \AfterEndPreamble
```

File 139 **`lwarf-fewerfloatpages.sty`**

§ 239 Package **`fewerfloatpages`**

Pkg `fewerfloatpages` `fewerfloatpages` is ignored.

for HTML output 1 \LWR@ProvidesPackageDrop{fewerfloatpages}[2020/02/14]

```
2 \newcommand\floatpagekeepfraction{\textfraction}
3 \newcounter{floatpagedeferlimit}
4 \newcounter{floatpagekeeplimit}
```

File 140 l warp-figcaps.sty**§ 240 Package figcaps**

(Emulates or patches code by PATRICK W. DALY.)

- Pkg figcaps figcaps is ignored.
for HTML output: Discard all options for l warp-figcaps:

```
1 \LWR@ProvidesPackageDrop{figcaps}[1999/02/23]
```

```
2 \newcommand*\figcapson(){}
3 \newcommand*\figcapsoff(){}
4 \newcommand*\printfigures(){}
5 \newcommand*\figmarkon(){}
6 \newcommand*\figmarkoff(){}
7 \def\figurecapname{Figure Captions}
8 \def\tablepagename{Tables}
9 \def\figurepagename{Figures}
```

File 141 l warp-figsize.sty**§ 241 Package figsize**

(Emulates or patches code by ANTHONY A. TANBAKUCHI.)

- Pkg figsize figsize is emulated.
for HTML output: 1 \LWR@ProvidesPackageDrop{figsize}[2002/03/18]

Emulates a virtual 6×9 inch textsize.

```
2 \newlength{\figwidth}
3 \newlength{\figheight}
4
5 \newcommand{\SetFigLayout}[3][0]{%
6 \setlength{\figheight}{8in}%
7 \setlength{\figheight}{\figheight / #2}%
8 %
9 \setlength{\figwidth}{5.5in}%
10 \setlength{\figwidth}{\figwidth / #3}%
11 }
```

File 142 l warp-fitbox.sty

§ 242 Package **fitbox**

Pkg fitbox fitbox is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{fitbox}[2019/02/20]

```
2 \NewDocumentCommand{\fitbox}{s o m}{%
3   \begin{BlockClass}{fitbox}
4   #3
5   \end{BlockClass}
6 }
7
8 \newcommand*\fitboxset[1]{}
9
10 \newdimen\fitboxnatheight
11 \newdimen\fitboxnatwidth
12
13 \newcommand\SetFitboxLayout[3][]{}
```

File 143 l warp-fix2col.sty

§ 243 Package **fix2col**

Pkg fix2col fix2col is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{fix2col}[2015/11/13]

File 144 l warp-fixme.sty

§ 244 Package **fixme**

(Emulates or patches code by DIDIER VERRA.)

Pkg fixme fixme is patched for use by l warp.

⚠ external layouts External layouts (\fxloadlayouts) are not supported.

User control is provided for setting the HTML styling of the “faces”. The defaults are as follows, and may be changed in the preamble after fixme is loaded:

```
\def\FXFaceInlineHTMLStyle{font-weight:bold}
\def\FXFaceEnvHTMLStyle{font-weight:bold}
\def\FXFaceSignatureHTMLStyle{font-style:italic}
\def\FXFaceTargetHTMLStyle{font-style:italic}
```

for HTML output: 1 \LWR@ProvidesPackagePass{fixme}[2017/03/05]

Restore lwarp's version of \@wrindex, ignoring the fixme package's target option:

2 \let\@wrindex\LWR@wrindex

Float-related macros required by lwarp:

3 \newcommand{\ext@fixme}{lox}
4
5 \renewcommand{\l@fixme}[2]{\hypertocfloat{1}{fixme}{lox}{#1}{#2}}

Other modifications:

6 \def\FXFaceInlineHTMLStyle{font-weight:bold}
7
8 \renewcommand*\FXLayoutInline[3]{ %
9 \InlineClass[\FXFaceInlineHTMLStyle]{fixmeinline} %
10 {\@fxtextrstd{\#1}{\#2}{\#3}} %
11 }
12
13 \def\FXFaceEnvHTMLStyle{font-weight:bold}
14
15 \renewcommand*\FXEnvLayoutPlainBegin[2]{%
16 \BlockClass[\FXFaceEnvHTMLStyle]{fixmebold}
17 \ignorespaces#2 \fxnotename{\#1}: \ignorespaces
18
19 \renewcommand*\FXEnvLayoutPlainEnd[2]{\endBlockClass}
20
21 \renewcommand*\FXEnvLayoutSignatureBegin[2]{%
22 \BlockClass[\FXFaceEnvHTMLStyle]{fixmebold}
23 \fxnotename{\#1}: \ignorespaces
24
25 \renewcommand*\FXEnvLayoutSignatureEnd[2]{\@fxsignature{\#2}\endBlockClass}
26
27 \def\FXFaceSignatureHTMLStyle{font-style:italic}
28
29 \DeclareRobustCommand*\@fxsignature[1]{%
30 \ifthenelse{\equal{\#1}{}}{ %
31 {} %
32 { -- \InlineClass[\FXFaceSignatureHTMLStyle]{fixmesignature}{\#1}} %
33 }
34
35
36 \def\FXFaceTargetHTMLStyle{font-style:italic}
37
38 \renewcommand*\FXTargetLayoutPlain[2]{%
39 \InlineClass[\FXFaceTargetHTMLStyle]{fixmetarget}{\#2} %
40 }

File 145 **lwarp-fixmetodonotes.sty**

§ 245 Package fixmetodonotes

(Emulates or patches code by GIOELE BARABUCCI.)

Pkg fixmetodonotes fixmetodonotes is patched for use by lwarps.

```
for HTML output: 1 \LWR@ProvidesPackagePass{fixmetodonotes}[2013/04/28]

2 \renewcommand{\NOTES@addtolist}[2]{%
3   \refstepcounter{NOTES@note}%
4 % \phantomsection% REMOVED
5   \addcontentsline{notes}{\NOTES@note}{%
6     \protect\numberline{\theNOTES@note}{\#1}: {\#2}}%
7 }%
8 }%
9
10 \renewcommand{\NOTES@marker}[2]{\fbox{%
11   \textcolor{#2}{% WAS \color
12   \textbf{\#1}}%
13 }}%
14
15 \renewcommand{\NOTES@colorline}[2]{%
16   \bgroup%
17   \ULon{\LWR@backgroundcolor{\#1}{\#2}}%
18 }
```

File 146 **lwarp-flafter.sty**

§ 246 Package **flafter**

Pkg flafter flafter is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{flafter}[2018/01/08]
2 \providecommand\fl@trace[1]{}

File 147 **lwarp-flippdf.sty**

§ 247 Package **flippdf**

Pkg flippdf flippdf is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{flippdf}[2006/06/30]

```
2 \newcommand\FlipPDF{}
3 \newcommand\UnFlipPDF{}
```

File 148 **l warp-float.sty**

§ 248 Package **float**

(Emulates or patches code by ANSELM LINGNAU.)

Pkg float float is emulated.

Float styles boxed and ruled are emulated by css and a float class according to style.

The HTML <figure> class is set to the float type, so css may also be used to format the float and its caption, according to float type. Furthermore, an additional class is set to the float style: plain, plaintop, boxed, or ruled, so css may be used to format by float style as well. Default formatting by css is provided for ruled and boxed styles.

for HTML output: 1 \LWR@ProvidesPackageDrop{float}[2001/11/08]

\listof See section 75.2 for the \listof command.

\LWR@floatstyle The default float style:

```
2 \newcommand*\{\LWR@floatstyle}{plain}
```

\newfloat {<1: type>} {<2: placement>} {<3: ext>} [<4: within>]

Emulates the \newfloat command from the float package.

“placement” is ignored.

```
3 \NewDocumentCommand{\newfloat}{m m m o}{%
4 \IfValueTF{#4}{%
5 {\DeclareFloatingEnvironment[fileext=#3,within=#4]{#1}}{%
6 {\DeclareFloatingEnvironment[fileext=#3]{#1}}{}}
```

Remember the float style:

```
7 \csedef{\LWR@floatstyle@#1}{\LWR@floatstyle}{%
```

newfloat package automatically creates the \listof command for new floats, but float does not, so remove \listof here in case it is manually created later.

```
8 \cslet{\listoff#1s}{\relax}%
9 \cslet{\listof#1es}{\relax}%
```

Likesize, newfloat also creates \l@<type>, but float does not, so remove it here:

```
10 \cslet{\l@#1}{\relax}%
11 }
```

\floatname {⟨type⟩} {⟨name⟩}

Sets the text name of the float, such as “Figure”.

```
12 \NewDocumentCommand{\floatname}{m +m}{%
13     \SetupFloatingEnvironment{#1}{name=#2}%
14 }
```

\floatplacement {⟨type⟩} {⟨placement⟩}

Float placement is ignored.

```
15 \newcommand*{\floatplacement}[2]{%
16     \SetupFloatingEnvironment{#1}{placement=#2}%
17 }
```

\floatstyle {⟨style⟩}

Remember the style for future floats:

```
18 \newcommand{\floatstyle}[1]{%
19     \def\LWR@floatstyle{#1}%
20 }
```

\restylefloat * {⟨type⟩}

Remember the style for this float:

```
21 \NewDocumentCommand{\restylefloat}{s m}{%
22     \csedef{LWR@floatstyle@#2}{\LWR@floatstyle}%
23 }
```

File 149 **lwarf-floatflt.sty**

§ 249 Package **floatflt**

(Emulates or patches code by MATS DAHLGREN.)

Pkg **floatflt** **floatflt** is emulated.

for HTML output: Discard all options for **lwarf-floatflt**:

```
1 \LWR@ProvidesPackageDrop{floatflt}[1997/07/16]
```

Env [⟨⟩] offset {⟨type⟩} {⟨width⟩} Borrowed from the **lwarf** version of **keyfloat**:

```
2 \NewDocumentEnvironment{KFLTfloatflt@marginfloat}{O{-1.2ex} m m}%
3 {%
4     \begin{LWR@setvirtualpage}%
5     \ifblank{#3}{%
6         \LWR@BlockClassWP{%
7             float:right; %
8             width: 1.5in; % reasonable dummy width for word processor
9             margin:10pt%}
```

```

10      }{}%
11      {marginblock}%
12  }{%
13      \setlength{\LWR@templengthone}{#3}%
14      \LWR@BlockClassWP{%
15          float:right; %
16          width:\LWR@printlength{\LWR@templengthone}; % extra space
17          margin:10pt%
18      }{%
19          width:\LWR@printlength{\LWR@templengthone}%
20      }%
21      {marginblock}%
22  }%
23  \captionsetup{type=#2}%
24 }
25 {%
26     \endLWR@BlockClassWP%
27     \end{\LWR@setvirtualpage}%
28 }

```

Env floatingfigure [$\langle placement \rangle$] [$\langle width \rangle$]
 29 \DeclareDocumentEnvironment{floatingfigure}{o m}
 30 { \begin{KFLTfloatflt@marginfloat}{figure}{#2} }
 31 { \end{KFLTfloatflt@marginfloat} }

Env floatingtable [$\langle placement \rangle$]
 32 \DeclareDocumentEnvironment{floatingtable}{o}
 33 { \begin{KFLTfloatflt@marginfloat}{table}{} }
 34 { \end{KFLTfloatflt@marginfloat} }

File 150 **lwarf-floatpag.sty**

§ 250 Package **floatpag**

(Emulates or patches code by VYTAS STATULEVIČIUS AND SIGITAS TOLUŠIS.)

Pkg floatpag floatpag is ignored.

for HTML output: Discard all options for lwarf-floatpag:

```

1 \LWR@ProvidesPackageDrop{floatpag}[2012/05/29]

2 \newcommand*\floatpagestyle[1]{}
3 \newcommand*\rotfloatpagestyle[1]{}
4 \newcommand*\thisfloatpagestyle[1]{}

```

File 151 **l warp-floatrow.sty**

§ 251 Package **floatrow**

(Emulates or patches code by OLGA LAPKO.)

Pkg floatrow floatrow is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{floatrow}[2008/08/02]

⚠ Misplaced alignment tab character & Use \StartDefiningTabulars and \StopDefiningTabulars before and after defining macros using \ttabbox with a tabular inside. See section 8.10.1.

⚠ subfig package When combined with the subfig package, while inside a subfloatrow \ffigbox and \ttabbox must have the caption in the first of the two of the mandatory arguments.

⚠ \FBwidth, \FBheight The emulation of floatrow does not support \FBwidth or \FBheight. These values are pre-set to .3\linewidth and 2in. Possible solutions include:

- Use fixed lengths. l warp will scale the HTML lengths appropriately.
- Use warpprint and warpHTML environments to select appropriate values for each case.
- Inside a warpHTML environment, manually change \FBwidth or \FBheight before the \ffigbox or \ttabbox. Use \FBwidth or \FBheight normally afterwards; it will be used as expected in print output, and will use your custom-selected value in HTML output. This custom value will be used repeatedly, until it is manually changed to a new value.

After everything has loaded, remember whether subcaption was loaded. If not, it is assumed that subfig is used instead:

```

2 \newbool{\LWR@subcaptionloaded}
3
4 \AtBeginDocument{
5 \@ifpackageloaded{subcaption}
6 {\booltrue{\LWR@subcaptionloaded}}
7 {\boolfalse{\LWR@subcaptionloaded}}
8 }
```

\floatbox [⟨1 preamble⟩] {⟨2 captype⟩} [⟨3 width⟩] [⟨4 height⟩] [⟨5 vert pos⟩] {⟨6 caption⟩} {⟨7 object⟩}

Only parameters for captype, width, caption, and object are used.

LWR@insubfloatrow is true if inside a subfloatrow environment.

There are two actions, depending on the use of subcaption or subfig.

```
9 \NewDocumentCommand{\floatbox}{o m o o o +m +m}{%
```

```
10 \ifbool{LWR@subcaptionloaded}%
11 {%
  \subcaption
```

For `subcaption`:

```
12 \ifbool{LWR@insubfloatrow}%
13 {%
  \subcaption in a subfloatrow
```

`subfigure` and `subtable` environments take width as an argument.

```
14 \IfValueTF{#3}%
15 {%
  \nameuse{sub#2}{#3}%
  \nameuse{sub#2}{\linewidth}%
}%
17 {%
  subcaption in a subfloatrow%
}%
18 {%
  subcaption not in subfloatrow%
```

`figure` and `table` environments do not take a width argument.

```
19 \nameuse{#2}%
20 }%
21 #6%
22 %
23 #7
```

End the environments:

```
24 \ifbool{LWR@insubfloatrow}%
25 {%
  \nameuse{endsub#2}%
  \nameuse{end#2}%
}%
27 {%
  subcaption%
}%
28 {%
  assume subfig%
```

For `subfig`:

```
29 \ifbool{LWR@insubfloatrow}%
30 {%
  subfig in a subfloatrow%
```

`\subfloat` is a macro, not an environment.

Package `subfig`'s `\subfloat` command takes an optional argument which is the caption, but `\floatbox` argument #6 contains commands to create the caption and label, not the caption itself. Thus, `\caption` is temporarily disabled to return its own argument without braces.

```
31 \begingroup%
32 \let\caption\@firstofone%
33 \subfloat[#6]{#7}%
34 \endgroup%
35 }%
36 {%
  subfig in a subfloatrow%
}%
37 {%
  subfig package, but not a subfig%
```

`figure` and `table` are environments:

```
37 \nameuse{#2}%
38 #6%
39 %
40 #7%
41 \nameuse{end#2}%
42 }%
43 {%
  subfig package, but not a subfig%
}%
44 {%
  assume subfig%
```

Not used:

```

45 \newcommand*{\nocapbeside}{}%
46 \newcommand*{\capbeside}{}%
47 \newcommand*{\caption}{}%
48 \newlength{\FBwidth}%
49 \setlength{\FBwidth}{.3\linewidth}%
50 \newlength{\FBheight}%
51 \setlength{\FBheight}{2in}%
52 \newcommand*{\useFCwidth}{}%
53 \newcommand{\floatsetup}[2][]{%
54 \newcommand{\thisfloatsetup}[1]{%
55 \newcommand{\clearfloatsetup}[1]{%
56 \newcommand*{\killfloatstyle}{}%

```

\newfloatcommand {⟨1 command⟩} {⟨2 captype⟩} [⟨3 preamble⟩] [⟨4 default width⟩]

Preamble and default width are ignored.

```

57 \NewDocumentCommand{\newfloatcommand}{m m o o}{%
58 @namedef{#1}{%
59 \floatbox{#2}{%
60 }%
61 }%

```

\renewfloatcommand {⟨1 command⟩} {⟨2 captype⟩} [⟨3 preamble⟩] [⟨4 default width⟩]

Preamble and default width are ignored.

```

62 \NewDocumentCommand{\renewfloatcommand}{m m o o}{%
63 @namedef{#1}{%
64 \floatbox{#2}{%
65 }%
66 }%

```

\ffigbox [⟨width⟩] [⟨height⟩] [⟨vposn⟩] {⟨caption commands⟩} {⟨contents⟩}

```

67 \newfloatcommand{ffigbox}{figure}[\nocapbeside]{}%

```

\ttabbox [⟨width⟩] [⟨height⟩] [⟨vposn⟩] {⟨caption commands⟩} {⟨contents⟩}

```

68 \newfloatcommand{ttabbox}{table}[\caption][\FBwidth]{}%

```

\fcapside [⟨width⟩] [⟨height⟩] [⟨vposn⟩] {⟨caption commands⟩} {⟨contents⟩}

```

69 \newfloatcommand{fcapside}{figure}[\capbeside]{}%

```

Env floatrow [⟨numfloats⟩]

The row of floats is placed into a <div> of class floatrow.

```

70 \newenvironment*{floatrow}[1][2]{%
71 {%
72     \begin{LWR@setvirtualpage}*{%
73         \BlockClass{floatrow}{%

```

```

74 }
75 {
76     \endBlockClass%
77     \end{LWR@setvirtualpage}%
78 }
```

Keys for \DeclareNewFloatType:

```

79 \newcommand*\LWR@frowkeyplacement(){}
80 \newcommand*\LWR@frowkeyname(){}
81 \newcommand*\LWR@frowkeyfileext(){}
82 \newcommand*\LWR@frowkeywithin(){}
83 \newcommand*\LWR@frowkeycapstyle(){}
84
85 \define@key{frowkeys}{placement}{}
86 \define@key{frowkeys}{name}{\renewcommand{\LWR@frowkeyname}{#1}}
87 \define@key{frowkeys}{fileext}{\renewcommand{\LWR@frowkeyfileext}{#1}}
88 \define@key{frowkeys}{within}{\renewcommand{\LWR@frowkeywithin}{#1}}
89 \define@key{frowkeys}{relatedcapstyle}{}
```

\DeclareNewFloatType {⟨type⟩} {⟨options⟩}

Use \listof{type}{Title} to print a list of the floats.

90 \newcommand*\LWR@DeclareNewFloatType[2]{%

Reset key values:

```

91 \renewcommand*\LWR@frowkeyplacement(){}
92 \renewcommand*\LWR@frowkeyname(){}
93 \renewcommand*\LWR@frowkeyfileext){}
94 \renewcommand*\LWR@frowkeywithin){}
95 \renewcommand*\LWR@frowkeycapstyle}{}
```

Read new key values:

```

96 \LWR@traceinfo{about to setkeys frowkeys}%
97 \setkeys{frowkeys}{#2}%
98 \LWR@traceinfo{finished setkeys frowkeys}%

```

Create a new float with optional [within]:

```

99 \ifthenelse{\equal{\LWR@frowkeywithin}{}}{%
100 {%
101     \DeclareFloatingEnvironment[
102         placement=\LWR@frowkeyplacement,
103         fileext=\LWR@frowkeyfileext
104     ]{#1}%
105 }%
106 {%
107     \DeclareFloatingEnvironment[
108         placement=\LWR@frowkeyplacement,
109         fileext=\LWR@frowkeyfileext,
110         within=\LWR@frowkeywithin
111     ]{#1}%
112 %     \LWR@traceinfo{finished newfloat #1}%
113 }%
```

Rename the float if a name was given:

```
114 \ifthenelse{\equal{\LWR@frowkeyname}{}}{%
115   {}%
116   {}%
117   \SetupFloatingEnvironment[#1]{name={\LWR@frowkeyname}}%
118 }%
119 }
```

Not used:

```
120 \newcommand{\buildFbbox}[2]{}
121 \newcommand*{\CenterFloatBoxes}{}%
122 \newcommand*{\TopFloatBoxes}{}%
123 \newcommand*{\BottomFloatBoxes}{}%
124 \newcommand*{\PlainFloatBoxes}{}%
125
126 \newcommand{\capsubrowsettings}{}%
127
128 \NewDocumentCommand{\RawFloats}{o o}{}%
```

\RawCaption {*text*}

To be used inside a minipage or parbox.

```
129 \newcommand{\RawCaption}[1]{#1}
```

\floatfoot {*text*}

Places additional text inside a float, inside a css <div> of class floatfoot.

```
130 \NewDocumentCommand{\floatfoot}{s +m}{%
131 \begin{BlockClass}{floatfoot}%
132 #2%
133 \end{BlockClass}%
134 }
```

Used to compute \linewidth.

```
135 \newbool{\LWR@insubfloatrow}%
136 \boolfalse{\LWR@insubfloatrow}
```

Env subfloatrow [*num_floats*]

```
137 \newenvironment*{subfloatrow}[1][2]%
138 {
```

The row of floats is placed into a <div> of class floatrow:

```
139 \LWR@forcenewpage%
140 \BlockClass{floatrow}
```

While inside the floatrow, LWR@insubfloatrow is set true, which tells \floatbox to use \subfigure or \subtable.

```
141 \begingroup%
142 \booltrue{\LWR@insubfloatrow}
```

```
143 }
144 {
145 \endgroup
146 \endBlockClass
147 \boolfalse{LWR@insubfloatrow}
148 }
```

File 152 l warp-fltrace.sty**§ 252 Package fltrace**

Pkg fltrace fltrace is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{fltrace}[2018/01/08]

```
2 \def\tracefloats{}
3 \def\tracefloatsoff{}
4 \def\tracefloatvals{}
```

File 153 l warp-flushend.sty**§ 253 Package flushend**

(Emulates or patches code by SIGITAS TOLUŠIS.)

Pkg flushend flushend is ignored.

for HTML output: Discard all options for l warp-flushend:

```
1 \LWR@ProvidesPackageDrop{flushend}[2017/03/27]

2 \newcommand*\flushend(){}
3 \newcommand*\raggedend(){}
4 \newcommand*\flushcolsend(){}
5 \newcommand*\raggedcolsend(){}
6 \newcommand*\atColsBreak}[1]{}
7 \newcommand*\atColsEnd}[1]{}
8 \newcommand*\showcolsendlrule{}{}
```

File 154 l warp-fnbreak.sty**§ 254 Package fnbreak**

Pkg fnbreak fnbreak is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{fnbreak}[2012/01/01]

```
2 \newcommand*{\fnbreakverbose}{}  
3 \newcommand*{\fnbreaknonverbose}{}  
4 \newcommand*{\fnbreaklabel}{}  
5 \newcommand*{\fnbreaknolabel}{}  


---


```

File 155 l warp-fncychap.sty

§ 255 Package **fncychap**

(Emulates or patches code by ULF A. LINDGREN.)

Pkg fncychap fncychap is ignored.

for HTML output Discard all options for l warp-fncychap:

```
1 \LWR@ProvidesPackageDrop{fncychap}[2007/07/30]  
  
2 \def\mghrulefill#1{}  
3 \def\ChNameLowerCase{}  
4 \def\ChNameUpperCase{}  
5 \def\ChNameAsIs{}  
6 \def\ChTitleLowerCase{}  
7 \def\ChTitleUpperCase{}  
8 \def\ChTitleAsIs{}  
9 \newcommand{\ChRuleWidth}[1]{}  
10 \newcommand{\ChNameVar}[1]{}  
11 \newcommand{\ChNumVar}[1]{}  
12 \newcommand{\ChTitleVar}[1]{}  
13 \newcommand{\TheAlphaChapter}{}  
14 \newcommand{\DOCH}{}  
15 \newcommand{\DOTI}[1]{}  
16 \newcommand{\DOTIS}[1]{}  
17 \newlength{\mylen}  
18 \newlength{\myhi}  
19 \newlength{\px}  
20 \newlength{\py}  
21 \newlength{\pyy}  
22 \newlength{\pxx}  
23 \newlength{\RW}  
24 \newcommand{\FmN}[1]{#1}  
25 \newcommand{\FmTi}[1]{#1}
```

File 156 l warp-fnlineno.sty

§ 256 Package **fnlineno**

Pkg fnlineno fnlineno is ignored.

for HTML output

```
1 \LWR@ProvidesPackageDrop{fnlineno}[2011/01/07]
```

File 157 **l warp-fnpara.sty**

§ 257 Package **fnpara**

Pkg fnpara fnpara is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{fnpara}

File 158 **l warp-fnpos.sty**

§ 258 Package **fnpos**

(Emulates or patches code by HIROSHI NAKASHIMA.)

Pkg fnpos fnpos is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{fnpos}[1999/07/14]

2 \newcommand*{\makeFNbottom}{}
3 \newcommand*{\makeFNmid}{}
4 \newcommand*{\makeFNbelow}{}
5 \newcommand*{\makeFNabove}{}

File 159 **l warp-fontawesome.sty**

§ 259 Package **fontawesome**

(Emulates or patches code by XAVIER DANAUX.)

Pkg fontawesome fontawesome is patched for use by l warp.

Hashed inline images are used, as there may not be Unicode support for all icons.

 **poppler syntax warning**

If using pdfLATEX, *poppler* may issue a syntax warning regarding parsing a ligature component. XeLATEX or LuaLATEX may be used to avoid this warning.

In the following, the general strategy is to intercept \symbol and embed it inside a lateximage. These changes are done inside a local group.

For pdfLATEX, the alt tag includes the icon (symbol) number. For XeLATEX and LuaLATEX, the alt tag is generic.

for HTML output: 1 \LWR@ProvidesPackagePass{fontawesome}[2016/05/15]

```
2 \LetLtxMacro{\LWR@orig@symbol}{\symbol}
3
4 \ifxetexorluatex
5
6 \newfontfamily{\LWR@orig@FA}{FontAwesome}
7
8 \newcommand*{\LWR@fontawesome@xelatex@symbol}[1]{%
9     \LWR@findcurrenttextcolor%
10    \begin{lateximage}*[icon][fontawesomexetex#1SZ\LWR@font@size{}CL\LWR@tempcolor]%
11        \csuse{\LWR@font@size}%
12        \LWR@orig@FA%
13        \LWR@orig@symbol{#1}%
14    \end{lateximage}%
15 }
16
17 \RenewDocumentCommand{\FA}{%
18     \LetLtxMacro{\symbol}{\LWR@fontawesome@xelatex@symbol}%
19 }
20
21 \else
22
23 \newcommand*{\LWR@fontawesome@symbolX}[2]{%
24     \LWR@findcurrenttextcolor%
25     \begin{lateximage}*[icon #1][fontawesome#2#1SZ\LWR@font@size{}CL\LWR@tempcolor]%
26         \csuse{\LWR@font@size}%
27         \fontencoding{U}\fontfamily{fontawesome#2}\selectfont%
28         \LWR@orig@symbol{#1}%
29     \end{lateximage}%
30 }
31
32 \newcommand*{\LWR@fontawesome@symbolone}[1]{%
33     \LWR@fontawesome@symbolX{#1}{one}%
34 }
35
36 \newcommand*{\LWR@fontawesome@symboltwo}[1]{%
37     \LWR@fontawesome@symbolX{#1}{two}%
38 }
39
40 \newcommand*{\LWR@fontawesome@symbolthree}[1]{%
41     \LWR@fontawesome@symbolX{#1}{three}%
42 }
43
44 \renewrobustcmd\FAone{%
45     \LetLtxMacro{\symbol}{\LWR@fontawesome@symbolone}%
46 }
47
48 \renewrobustcmd\FAtwo{%
49     \LetLtxMacro{\symbol}{\LWR@fontawesome@symboltwo}%
50 }
51
52 \renewrobustcmd\FAthree{%
53     \LetLtxMacro{\symbol}{\LWR@fontawesome@symbolthree}%
54 }
55 \fi
```

File 160 l warp–fontawesome5.sty**§ 260 Package fontawesome5**

(Emulates or patches code by MARCEL KRÜGER.)

Pkg fontawesome5 fontawesome5 is patched for use by l warp.

Hashed inline images are used, as there may not be Unicode support for all icons.

The alt tag has the name of the icon.

for HTML output: 1 \LWR@ProvidesPackagePass{fontawesome5}[2018/07/27]

```
2 \ExplSyntaxOn
3 \cs_set:Nn\fontawesome_use_icon:n{%
4     \LWR@findcurrenttextcolor
5     \cs_if_exist:cTF{c__fontawesome_slot_#2_tl}{%
6         \begin{lateximage}*[#2][fontawesome5#1SZ\LWR@font@size{}CL\LWR@tempcolor]
7         \csuse{\LWR@font@size}
8         \exp_last_unbraced:Nv
9             \__fontawesome_icon_at:nnnn
10            {c__fontawesome_slot_#2_tl}
11            {#1}{#2}
12        \end{lateximage}
13    }{
14        \msg_error:nnxx{fontawesome5}{icon-not-found}{#2}{#1}
15    }
16 }
17 \ExplSyntaxOff
```

File 161 l warp–fontaxes.sty**§ 261 Package fontaxes**

(Emulates or patches code by ANDREAS BÜHMANN, MICHAEL UMMELS.)

Pkg fontaxes fontaxes is emulated for HTML, and used as-is for print output.

Functionality for small caps is in the l warp core. Swashes and figure styles are ignored for HTML.

for HTML output: 1 \LWR@ProvidesPackagePass{fontaxes}[2014/03/23]

```
2 \newrobustcmd{\LWR@HTML@sscshape}{\LWR@HTML@scshape}
3 \LWR@formatted{sscshape}
4 \newcommand*{\LWR@null@sscshape}{}{5}
```

```

6 \newrobustcmd{\LWR@HTML@textssc}[1]{\textsc{#1}}
7 \LWR@formatted{textssc}
8 \newcommand*\LWR@null@textssc[1]{#1}
9
10 \ifdef{\LWR@HTML@swshape}{}{%
11     \newcommand{\LWR@HTML@swshape}{}
12     \LWR@formatted{swshape}
13     \newcommand*\LWR@null@swshape[1]{}
14
15     \newcommand{\LWR@HTML@textsw}[1]{#1}
16     \LWR@formatted{textsw}
17     \newcommand*\LWR@null@textsw[1]{#1}
18 }
19
20 \appto{\LWR@nullfonts}{%
21 \LetLtxMacro\sscsshape\LWR@null@sscsshape%
22 \LetLtxMacro\textssc\LWR@null@textssc%
23 \LetLtxMacro\swshape\LWR@null@swshape%
24 \LetLtxMacro\textsw\LWR@null@textsw%
25 }

```

File 162 **l warp–fontenc.sty**

§ 262 Package **fontenc**

Pkg **fontenc** If using pdflATEX, l warp used to require fontenc be loaded before l warp, but now l warp itself loads \fontenc with T1 encoding, which l warp requires. fontenc is now allowed to be loaded with another encoding after l warp.

l warp–fontenc is no longer necessary, but is still provided to overwrite older versions.

for HTML output: 1 \LWR@ProvidesPackagePass{fontenc}[2017/04/05]

File 163 **l warp–footmisc.sty**

§ 263 Package **footmisc**

(Emulates or patches code by ROBIN FAIRBAIRNS.)

Pkg **footmisc** footmisc is emulated.

l warp incidentally happens to emulate the stable option.

1 \LWR@ProvidesPackageDrop{footmisc}[2011/06/06]

Some nullified commands:

```

2 \newcommand{\footnotelayout}{}
3 \newcommand{\setfnsymbol}[1]{}

```

```

4 \NewDocumentCommand{\DefineFNsymbols}{s m o m}{}%
5
6 \newdimen\footnotemargin
7 \footnotemargin1.8em\relax
8
9 \newcommand*\hangfootparskip{0.5\baselineskip}
10 \newcommand*\hangfootparindent{0em}%
11
12 \let\pagefootnoterule\footnoterule
13 \let\mpfootnoterule\footnoterule
14 \def\splitfootnoterule{\kern-3\p@ \hrule \kern2.6\p@}
15
16 \providecommand*\multiplefootnotemarker}{3sp}
17 \providecommand*\multfootsep}{,}

```

Using `cleveref`:

```
18 \providecommand*\footref[1]{\labelcref{#1}}
```

The following work as-is:

```

19 \newcommand\mpfootnotemark{%
20   \@ifnextchar[%%
21     \@xmpfootnotemark%
22   {%
23     \stepcounter\@mpfn%
24     \protected@xdef\@thefnmark{\thempfn}%
25     \@footnotemark%
26   }%
27 }
28 \def\@xmpfootnotemark[#1]{%
29   \begingroup%
30   \csname c@\@mpfn\endcsname #1\relax%
31   \unrestored@protected@xdef\@thefnmark{\thempfn}%
32   \endgroup%
33   \@footnotemark%
34 }

```

File 164 **lwarp-footnote.sty**

§ 264 Package **footnote**

(Emulates or patches code by MARK WOODING.)

Pkg **footnote** **footnote** is used with minor patches.

for HTML output: 1 \LWR@ProvidesPackagePass{footnote}[1997/01/28]

Removed print-version formatting:

```

2 \def\fn@startnote{%
3 %   \parboxrestore%

```

```

4  \protected@edef{\currentlabel{ \csname p@\@mpfn\endcsname\@thefnmark}%
5 %   \color@begingroup% *** conflicts with l warp
6 }
7
8 \%let\fn@endnote\color@endgroup% *** conflicts with l warp
9 \def\fn@endnote{%
10 \LWR@htmltagc{/ \LWR@tagregularparagraph}%
11 \LWR@newline%
12 }
```

Removed print-version formatting:

```

13 \def\fn@startfntext{%
14   \setbox\z@\vbox\bgroup%
15     \fn@startnote%
16     \ignorespaces%
17 }
```

Removed print-version formatting, added closing paragraph tag:

```

18 \def\fn@endfntext{%
19   \LWR@htmltagc{/ \LWR@tagregularparagraph}%
20   \LWR@newline%
21   \egroup%
22   \begingroup%
23   \let\@makefntext\empty%
24   \let\@finalstrut\gobble%
25   \LetLtxMacro\rule\gobbletwo% *8* also the optional argument?
26   \@footnotetext{\unvbox\z@}%
27   \endgroup%
28 }
```

These have been redefined, so re-\let them again:

```

29 \let\endfootnote\fn@endfntext
30 \let\endfootnotetext\endfootnote
```

File 165 **l warp-footnotebackref.sty**

§ 265 Package **footnotebackref**

Pkg footnotebackref footnotebackref is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{footnotebackref}[2012/07/01]

File 166 **l warp-footnotehyper.sty**

§ 266 Package **footnotehyper**

Pkg footnotehyper footnotehyper is a hyperref-safe version of footnote. For l warp, footnotehyper is em-

ulated.

for HTML output: Discard all options for l warp-footnotehyper:

```
1 \RequirePackage{footnote}
2 \LWR@ProvidesPackageDrop{footnotehyper}[2018/01/23]
```

File 167 **l warp-footnoterange.sty**

§ 267 Package **footnoterange**

(Emulates or patches code by H.-MARTIN MÜNCH.)

Pkg footnoterange footnoterange is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{footnoterange}[2012/02/17]

```
2 \csletcs{footnoterange}{footnoterange*}
3 \csletcs{endfootnoterange}{endfootnoterange*}
```

File 168 **l warp-footnpag.sty**

§ 268 Package **footnpag**

Pkg footnpag footnpag is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{footnpag}

File 169 **l warp-foreign.sty**

§ 269 Package **foreign**

(Emulates or patches code by PHILIP G. RATCLIFFE.)

Pkg foreign foreign is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{foreign}[2012/09/25]

```
2 \renewcommand\foreignabbrfont{\emph{}}
```

File 170 **l warp-forest.sty**

§ 270 Package **forest**

(Emulates or patches code by SAŠO ŽIVANOVIC.)

Pkg forest forest is patched for use by lwarp.

⚠ \Forest* The starred version of the macro \Forest* is not supported. lwarp encases each lateximage in an environment, so the global results of the starred \Forest* are lost.

for HTML output: 1 \LWR@ProvidesPackagePass{forest}[2017/07/14]

```

2 \BeforeBeginEnvironment{forest}{\begin{lateximage}[forest]}
3
4 \AfterEndEnvironment{forest}{\end{lateximage}}
5
6 \RenewDocumentCommand{\Forest}{s D(){} m}{%
7   \forest@config{#2}%
8   \IfBooleanTF{#1}{%
9     \PackageError{lwarp-forest}{%
10    {Starred } \Forest is not supported}%
11    {Lwarp uses an environment for images, but \Forest* cannot work in an environment.}%
12    \let\forest@next\forest@env%
13    }{\let\forest@next\forest@grouppar@env}%
14    \begin{lateximage}[-forest-\~\PackageDiagramAltText]%
15 \forest@next{#3}%
16    \end{lateximage}%
17 }%
17 }
```

File 171 lwarp-fouridx.sty

§ 271 Package **fouridx**

(Emulates or patches code by STEFAN KARRMANN.)

Pkg fouridx fouridx works as-is with SVG math, and is emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{fouridx}[2013/11/21]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{%
4   \newcommand{\fourIdx}[5]{%
5     \vphantom{#5}^{#1}_{#2}{}_{#3}{}^{#4}{}_{#5}%
6   }%
7 }
8 \end{warpMathJax}
```

File 172 lwarp-framed.sty

§ 272 Package **framed**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg framed framed is supported and patched by lwarp.

for HTML output: Accept all options for l warp-framed:

```
1 \LWR@ProvidesPackagePass{framed}[2011/10/22]
2 \AtBeginDocument{\RequirePackage{xcolor}}% for \convertcolorspec

3
4 \renewenvironment{framed}{%
5 \LWR@forcenewpage
6 \BlockClass{framed}%
7 }
8 {\endBlockClass}
9
10 \renewenvironment{oframed}{%
11 \LWR@forcenewpage
12 \BlockClass{framed}%
13 }
14 {\endBlockClass}
15
16
17 \renewenvironment{shaded}{%
18 \convertcolorspec{named}{shadecolor}{HTML}\LWR@tempcolor%
19 \LWR@forcenewpage
20 \BlockClass[background: \LWR@origpound\LWR@tempcolor]{shaded}%
21 }
22 {\endBlockClass}
23
24 \renewenvironment{shaded*}{%
25 \convertcolorspec{named}{shadecolor}{HTML}\LWR@tempcolor%
26 \LWR@forcenewpage
27 \BlockClass[background: \LWR@origpound\LWR@tempcolor]{shaded}%
28 }
29 {\endBlockClass}
30
31
32 \renewenvironment{leftbar}{%
33 \LWR@forcenewpage
34     \BlockClass{framedleftbar}
35     \def\FrameCommand{}%
36     \MakeFramed {}
37 }%
38 {\endMakeFramed\endBlockClass}
39
40
41 \renewenvironment{snugshade}{%
42 \convertcolorspec{named}{shadecolor}{HTML}\LWR@tempcolor%
43 \LWR@forcenewpage
44 \BlockClass[background: \LWR@origpound\LWR@tempcolor]{snugframed}%
45 }
46 {\endBlockClass}
47
48 \renewenvironment{snugshade*}{%
49 \convertcolorspec{named}{shadecolor}{HTML}\LWR@tempcolor%
50 \LWR@forcenewpage
51 \BlockClass[background: \LWR@origpound\LWR@tempcolor]{snugframed}%
52 }
53 {\endBlockClass}
```

```
54
55 \let\oframed\framed
56 \let\endoframed\endframed
57
58
59 \RenewEnviron{titled-frame}[1]{%
60 \CustomFBox{\#1}{}{0pt}{0pt}{0pt}{\BODY}
61 }

\CustomFBox {\langle toptitle\rangle} {\langle bottitle\rangle} {\langle thicknessstop\rangle} {\langle bottom\rangle} {\langle left\rangle} {\langle right\rangle}
{\langle text contents\rangle}

62 \renewcommand{\CustomFBox}[7]{%
63 \convertcolorspec{named}{TFFrameColor}{HTML}\LWR@tempcolor%
64 \LWR@forcenewpage
65 \begin{BlockClass}[border: 3px solid \LWR@origpound\LWR@tempcolor]{framed}%
66 \ifthenelse{\isempty{\#1}}{}{%
67   \begin{BlockClass}[background: \LWR@origpound\LWR@tempcolor]{framedtitle}%
68     \textcolor{TFTTitleColor}{\textbf{\#1}}%
69   \end{BlockClass}%
70 }%
71 }%
72 #7
73
74 \ifthenelse{\isempty{\#2}}{}{%
75   \convertcolorspec{named}{TFFrameColor}{HTML}\LWR@tempcolor%
76   \begin{BlockClass}[background: \LWR@origpound\LWR@tempcolor]{framedtitle}%
77     \textcolor{TFTTitleColor}{\textbf{\#2}}%
78   \end{BlockClass}%
79 }%
80 \end{BlockClass}
81 }

\TitleBarFrame [\langle marker\rangle] {\langle title\rangle} {\langle contents\rangle}

82 \renewcommand{\TitleBarFrame}[3][]{%
83 \CustomFBox
84   {\#2}{}%
85   \fboxrule\fboxrule\fboxrule\fboxrule
86   {\#3}%
87 }

88 \renewcommand{\TF@Title}[1]{\#1}

MakeFramed {\langle settings\rangle}

89 \let\MakeFramed\relax
90 \let\endMakeFramed\relax
91
92 \NewEnviron{MakeFramed}[1]{%
93 \FrameCommand{\begin{minipage}{\linewidth}\BODY\end{minipage}}%
94 }
```

```
\fb@put@frame {\frame cmd no split} {\frame cmd split}
```

```
95 \renewcommand*\{\fb@put@frame}[2]{%
96 \relax%
97 \@tempboxa%
98 }
```

File 173 **l warp-ftcap.sty**

§ 273 Package **ftcap**

Pkg **ftcap** **ftcap** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{ftcap}

File 174 **l warp-ftnright.sty**

§ 274 Package **ftnright**

Pkg **ftnright** **ftnright** is ignored.

for HTML output: Discard all options for **l warp-ftnright**:

```
1 \LWR@ProvidesPackageDrop{ftnright}[2014/10/28]
```

File 175 **l warp-fullminipage.sty**

§ 275 Package **fullminipage**

Pkg **fullminipage** **fullminipage** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{fullminipage}[2014/07/06]

```
2 \newenvironment{fullminipage}[1]{}{}{}
```

File 176 **l warp-fullpage.sty**

§ 276 Package **fullpage**

Pkg **fullpage** **fullpage** is ignored.

for HTML output: Discard all options for **l warp-fullpage**:

```
1 \LWR@ProvidesPackageDrop{fullpage}[1994/06/01]
```

File 177 **l warp-fullwidth.sty**

§ 277 Package **fullwidth**

(Emulates or patches code by MARCO DANIEL.)

Pkg **fullwidth** **fullwidth** is emulated.

A minipage is used, of no HTML width.

for HTML output: 1 \LWR@ProvidesPackageDrop{fullwidth}[2011/11/18]

```
2 \newenvironment*{fullwidth}[1][]{%
3 \minipage{fullwidth}%
4 \minipage{\linewidth}%
5 }%
6 {%
7 \endminipage%
8 }
```

File 178 **l warp-fwlw.sty**

§ 278 Package **f wlw**

Pkg **f wlw** **f wlw** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{f wlw}

```
2 \newbox\FirstWordBox \global\setbox\FirstWordBox\hbox{}%
3 \newbox\NextWordBox \global\setbox\NextWordBox\hbox{}%
4 \newbox\LastWordBox \global\setbox\LastWordBox\hbox{}%
5 \def\ps@f wlwhead{}%
6 \def\ps@NextWordFoot{}
```

File 179 **l warp-gensymb.sty**

§ 279 Package **gensymb**

(Emulates or patches code by WALTER SCHMIDT.)

Pkg **gensymb** **gensymb** works as-is for SVG math, and is emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{gensymb}[2003/07/02]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\degree}{\mathrm{^\circ}}}
4 \CustomizeMathJax{\newcommand{\celsius}{\text{\textnormal{\'{e}}}}}
5 \CustomizeMathJax{\newcommand{\perthousand}{\text{\textnormal{‰}}}}
6 \CustomizeMathJax{\newcommand{\ohm}{\mathrm{\Omega}}}
7 \CustomizeMathJax{\newcommand{\micro}{\mathrm{\mu}}}
8 \end{warpMathJax}

```

File 180 **l warp-gentombow.sty**

§ 280 Package **gentombow**

Pkg gentombow gentombow is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{gentombow}[2018/05/17]

```

2 \newcommand{\settombowbanner}[1]{}
3 \newcommand{\settombowbannerfont}[1]{}
4 \newcommand{\settombowwidth}[1]{}
5 \newcommand{\settombowbleed}[1]{}
6 \newcommand{\settombowcolor}[1]{}

```

File 181 **l warp-geometry.sty**

§ 281 Package **geometry**

(Emulates or patches code by HIDEO UMEKI.)

Pkg geometry geometry is preloaded by l warp, but must be nullified as seen by the user's source code.

for HTML output: Discard all options for l warp-geometry:

1 \LWR@ProvidesPackageDropA{geometry}[2018/04/16]

If geometry is never loaded by the user, it will be loaded by l warp \AtBeginDocument. If this is the case, the page layout should not be changed but the user macros should still be nullified.

2 \ifbool{\LWR@allowanothergeometry}{%

Assign and set the selected geometry with reset prepended. \AtEndPreamble l warp will save this, then set its own geometry.

```

3 \edef\LWR@tempone{reset,\optionlist{@currname.\@currext}}%
4 \expandafter\lWR@origgeometry\expandafter{\LWR@tempone}%
5 }{}% \LWR@allowanothergeometry

```

The user-level commands are nullified:

```
6 \renewcommand*\{\geometry}{1}{}  
7 \renewcommand*\{\newgeometry}{1}{}  
8 \renewcommand*\{\restoregeometry}{}  
9 \renewcommand*\{\savegeometry}{1}{}  
10 \renewcommand*\{\loadgeometry}{1}{}  
_____
```

File 182 **l warp-ghsystem.sty**

§ 282 Package **ghsystem**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

Pkg **ghsystem** **ghsystem** is patched for use by **l warp**.

- ⚠ **\ghspic images** Images must be provided in SVG format, unless JPG is specified. It is recommended to create a local `images` directory, copy into it the relevant PDF **ghsystem** images, and then convert them with

Enter ⇒ **l warpmk pdftosvg images/*.pdf**

for HTML output: 1 \LWR@ProvidesPackagePass{ghsystem}[2020/02/17]

```
2 \ExplSyntaxOn  
3  
4 \cs_set_protected:Npn \ghsystem_filler:n #1  
5   { \emph { \textless#1 \textgreater } }  
6  
7 \cs_set_protected:Npn \ghsystem_pic:n #1  
8  {  
9    \__ghsystem_includegraphics:xn  
10    {  
11      scale = \fp_to_tl:N \l__ghsystem_picture_scale_fp  
12      width = 1.25cm  
13      \exp_not:V \l__ghsystem_picture_includegraphics_tl  
14    }  
15    { ghsystem_ #1 . \l__ghsystem_picture_type_tl }  
16  }  
17  
18 \ExplSyntaxOff  
_____
```

File 183 **l warp-gloss.sty**

§ 283 Package **gloss**

(Emulates or patches code by JOSE LUIS DÍAZ, JAVIER BEZOS.)

Pkg **gloss** **gloss** is patched for use by **l warp**.

To process the HTML glossary:

```
bibtex <projectname>_html.gls
```

for HTML output: 1 \LWR@ProvidesPackagePass{gloss}[2002/07/26]

\BaseJobname is added to the label in case xr or xr-hyper are used.

```
2 \xpatchcmd{\gls@gloss@iii}
3   {\thepage}
4   {\theLWR@previousautopagelabel}
5   {}
6   {\LWR@patcherror{gloss}{\gls@gloss@iii}}
7
8 \def\gls@page@i#1#2{%
9   \endgroup%
10  \global\@namedef{glsp@#1}{\nameref{\BaseJobname-autopage-#2}}}%
```

File 184 **lwarp-glossaries.sty**

§ 284 Package **glossaries**

(Emulates or patches code by NICOLA L.C. TALBOT.)

Pkg **glossaries**
processing glossaries
 Opt **GlossaryCmd**
 Default: **makeglossaries**
 Opt [**lwarpmk**] **printglossary**
 Opt [**lwarpmk**] **htmlglossary**

lwarpmk has the commands **lwarpmk printglossary** and **lwarpmk htmlglossary**, which process the glossaries created by the **glossaries** package using that package's **makeglossaries** program.

The shell command to execute is set by the **lwarp** option **GlossaryCmd**, which defaults to **makeglossaries**. The print or HTML glossary filename is appended to this command.

⚠ makeglossaries not found

In some situations it may be required to modify the default command, such as to add the **perl** command in front:

```
\usepackage[
  GlossaryCmd={perl makeglossaries},
] {lwarp}
```

xindy language To set the language to use for processing glossaries with **xindy**:

```
\usepackage[
  GlossaryCmd={makeglossaries -L english},
] {lwarp}
```

Other options for **makeglossaries** may be set as well.

placement and toc options

The glossaries may be placed in a numbered or unnumbered section, given a TOC entry, and placed inline or on their own HTML page:

Numbered section, on its own HTML page:

```
\usepackage[xindy,toc,numberedsection=nolabel]{glossaries}
...
\printglossaries
```

Unnumbered section, inline with the current HTML page:

```
\usepackage[xindy,toc]{glossaries}
...
\printglossaries
```

Unnumbered section, on its own HTML page:

```
\usepackage[xindy,toc]{glossaries}
...
\ForceHTMLPage
\printglossaries
```

 **glossary style** The default `style=item` option for `glossaries` conflicts with `lwarf`, so the style is forced to `index` instead.

 **number list** The page number list in the printed form would become `\nameref`s in `HTML`, which could become a very long string if many items are referenced. For now, the number list is simply turned off.

print/HTML versions The print and `HTML` versions of the glossary differ in their internal page numbers. Separate commands for generating print and `HTML` glossaries are used, even though the page number is currently ignored.

for HTML output:

```
1 \PassOptionsToPackage{xindy}{glossaries}
2
3 \LWR@ProvidesPackagePass{glossaries}[2018/07/23]
4
5 \setupglossaries{nonumberlist}
6 \setglossarystyle{index}
```

Patched to fix `toc` pointing to the previous page:

```
7 \renewcommand*{\@p@glossarysection}[2]{%
8   \glsclearpage
9   \phantomsection
10  \ifdefempty\@glossarysecstar
11  {%
12    \csname\@glossarysec\endcsname{#2}%
13  }%
14  {%
```

In the original, the `toc` entry was made before the section, thus linking to the `phantomsection` in the printed version, but for `HTML`, this caused the link to point to the page before the glossaries, which could be a different `HTML` file. Here, the `toc` entry is made after the section is created:

```
15      \csname\@glossarysec\endcsname{#2}%
16      \gls@toc{#1}{\@glossarysec}% Moved after the previous line.
17  }%
18  \@@glossaryseclabel
19 }
```

`lwarf`'s sectioning commands cannot handle robust macros when splitting HTML into named filenames. `glossaries` uses `\translate` in sectioning names, and `\translate` is robust and cannot be expanded. The following pre-expands the translations at this moment, making use of `\translatelet`.

```

20 \newcommand*{\LWR@comp@glossaryname}{\translate{Glossary}}
21
22 \ifdefined\glossaryname{\LWR@comp@glossaryname}{
23     \translatelet{\LWR@translatetemp}{Glossary}
24     \edef\glossaryname{\LWR@translatetemp}
25 }{}
26
27 \newcommand*{\LWR@comp@acronymname}{\translate{Acronym}}
28
29 \ifdefined\acronymname{\LWR@comp@acronymname}{
30     \translatelet{\LWR@translatetemp}{Acronym}
31     \edef\acronymname{\LWR@translatetemp}
32 }{}
33
34 \newcommand*{\LWR@comp@glssymbolsgroupname}{\translate{Symbols (glossaries)}}
35
36 \ifdefined\glssymbolsgroupname{\LWR@comp@glssymbolsgroupname}{
37     \translatelet{\LWR@translatetemp}{Symbols (glossaries)}
38     \edef\glssymbolsgroupname{\LWR@translatetemp}
39 }{}
40
41 \newcommand*{\LWR@comp@glsnumbersgroupname}{\translate{Numbers (glossaries)}}
42
43 \ifdefined\glsnumbersgroupname{\LWR@comp@glsnumbersgroupname}{
44     \translatelet{\LWR@translatetemp}{Numbers (glossaries)}
45     \edef\glsnumbersgroupname{\LWR@translatetemp}
46 }{}

```

File 185 `lwarf-gmeometric.sty`

§ 285 Package **gmeometric**

Pkg gmeometric `gmeometric` is ignored.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{gmeometric}[2008/11/22]
2 \RequirePackageWithOptions{geometry}

```

File 186 `lwarf-graphics.sty`

§ 286 Package **graphics**

(Emulates or patches code by D. P. CARLISLE.)

Pkg graphics `graphics` is emulated.

for HTML output: 1 \LWR@ProvidesPackagePass{graphics}[2017/06/25]

§ 286.1 Graphics extensions

\DeclareGraphicsExtensions {\langle list\rangle}

\AtBeginDocument allow SVG files instead of PDF:

```
2 \AtBeginDocument{  
3 \DeclareGraphicsExtensions{.svg,.SVG,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG}  
4 \DeclareGraphicsRule{.svg}{svg}{.svg}{}  
5 \DeclareGraphicsRule{.SVG}{svg}{.SVG}{}  
6 }
```

Inside a `lateximage`, allow PDF instead of SVG:

```
7 \ifpdf  
8 \appto{\LWR@restoreorigformatting}{%  
9 \DeclareGraphicsExtensions{.pdf,.PDF,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG}}%  
10 }  
11 \else% \ifpdf  
12 \ifXeTeX  
13 \appto{\LWR@restoreorigformatting}{%  
14 \DeclareGraphicsExtensions{.pdf,.PDF,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG}}%  
15 }  
16 \else  
17 \appto{\LWR@restoreorigformatting}{%  
18 \DeclareGraphicsExtensions{.eps,.EPS,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG}}%  
19 }  
20 \fi  
21 \fi
```

§ 286.2 Length conversions and graphics options

⚠ whitespace A scaled image in L^AT_EX by default takes only as much space on the page as it requires, but HTML browsers use as much space as the original unscaled image would have taken, with the scaled image over- or under-flowing the area.

Used to store the user's selected dimensions and HTML class.

The class defaults to "inlineimage" unless changed by a `class=xyx` option.

```
22 \newlength{\LWR@igwidth}  
23 \newlength{\LWR@igheight}  
24 \newcommand*{\LWR@igwidthstyle}{}  
25 \newcommand*{\LWR@igheightstyle}{}  
26 \newcommand*{\LWR@igorigin}{}  
27 \newcommand*{\LWR@igangle}{}  
28 \newcommand*{\LWR@igxscale}{1}  
29 \newcommand*{\LWR@igyscale}{1}  
30 \newcommand*{\LWR@igclass}{inlineimage}  
  
31 \newcommand*{\LWR@igalt}{\ImageAltText}
```

Set the actions of each of the key/value combinations for `\includegraphics`. Many are ignored.

If an optional width was given, set an HTML style:

```
32 \define@key{igraph}{width}{%
33 \setlength{\LWR@igwidth}{#1}%
34 \ifthenelse{\lengthtest{\LWR@igwidth > 0pt}}{%
35 {%
```

Default to use the converted fixed length given:

```
36     \renewcommand*{\LWR@igwidthstyle}[width:\LWR@printlength{\LWR@igwidth}]%
```

If ex or em dimensions were given, use those instead:

```
37     \IfEndWith{#1}{ex}%
38     {\renewcommand*{\LWR@igwidthstyle}[width:#1]{} yes ex
39     {}% not ex
40     \IfEndWith{#1}{em}%
41     {\renewcommand*{\LWR@igwidthstyle}[width:#1]{} yes em
42     {}% not em
43     \IfEndWith{#1}{\%}%
44     {\renewcommand*{\LWR@igwidthstyle}[width:#1]{} yes percent
45     {}% not percent
46     \IfEndWith{#1}{px}%
47     {\renewcommand*{\LWR@igwidthstyle}[width:#1]{} yes px
48     {}% not px
49 }{}% end of length > 0pt
50 }
```

If an optional height was given, set an HTML style:

```
51 \define@key{igraph}{height}{%
52 \setlength{\LWR@igheight}{#1}%
53 \ifthenelse{\lengthtest{\LWR@igheight > 0pt}}{%
54 {%
```

Default to use the converted fixed length given:

```
55     \renewcommand*{\LWR@igheightstyle}[%
56     height:\LWR@printlength{\LWR@igheight} % extra space
57     ]%
```

If ex or em dimensions were given, use those instead:

```
58     \IfEndWith{#1}{ex}%
59     {\renewcommand*{\LWR@igheightstyle}[height:#1]{} yes ex
60     {}% not ex
61     \IfEndWith{#1}{em}%
62     {\renewcommand*{\LWR@igheightstyle}[height:#1]{} yes em
63     {}% not em
64     \IfEndWith{#1}{\%}%
65     {\renewcommand*{\LWR@igheightstyle}[height:#1]{} yes percent
```

```

66      {}% not percent
67      \IfEndWith{\#1}{px}%
68      {\renewcommand*{\LWR@igheightstyle}{height:#1}}% yes px
69      {}% not px
70 }{}% end of length > 0pt
71 }

```

Handle origin key:

```

72 \define@key{igraph}{origin}[c]{%
73     \renewcommand*{\LWR@igorigin}{\#1}%
74 }

```

Handle angle key:

```
75 \define@key{igraph}{angle}{\renewcommand*{\LWR@igangle}{\#1}}
```

Handle class key:

```
76 \define@key{igraph}{class}{\renewcommand*{\LWR@igclass}{\#1}}
```

Handle alt key:

```
77 \define@key{igraph}{alt}{\renewcommand*{\LWR@igalt}{\#1}}
```

It appears that `graphicx` does not have separate keys for `xscale` and `yscale`. `scale` adjusts both at the same time.

```

78 \define@key{igraph}{scale}{%
79     \ifthenelse{\equal{\#1}{1}}{}{%
80         \PackageWarning{lwarp}{%
81             It is recommended to use\MessageBreak
82             [width=xx\protect\linewidth]\MessageBreak
83             instead of [scale=yy],%
84         }%
85     }%
86     \renewcommand*{\LWR@igxscale}{\#1}%
87     \renewcommand*{\LWR@igyscale}{\#1}%
88 }

```

Numerous ignored keys:

```

89 \define@key{igraph}{bb}(){}
90 \define@key{igraph}{bbllx}(){}
91 \define@key{igraph}{bbly}(){}
92 \define@key{igraph}{bburx}(){}
93 \define@key{igraph}{bbury}(){}
94 \define@key{igraph}{natwidth}(){}
95 \define@key{igraph}{natheight}(){}
96 \define@key{igraph}{hiresbb}[true] {}
97 \define@key{igraph}{viewport} {}
98 \define@key{igraph}{trim} {}
99 \define@key{igraph}{totalheight} {}
100 \define@key{igraph}{keepaspectratio}[true] {}

```

```

101 \define@key{igraph}{clip}[true]{}
102 \define@key{igraph}{draft}[true]{}
103 \define@key{igraph}{type}{}
104 \define@key{igraph}{ext}{}
105 \define@key{igraph}{read}{}
106 \define@key{igraph}{command}{}

```

New in v1.1a:

```

107 \define@key{igraph}{quite}{}
108 \define@key{igraph}{page}{}
109 \define@key{igraph}{pagebox}{}
110 \define@key{igraph}{interpolate}[true]{}

```

New in v1.1b:

```

111 \define@key{igraph}{decodearray}{}

```

§ 286.3 Printing HTML styles

\LWR@rotstyle {*prefix*} {*degrees*}

Prints the rotate style with the given prefix.

prefix is -ms- or -webkit- or nothing, and is used to generate three versions of the transform:rotate style.

```

112 \newcommand*{\LWR@rotstyle}[2]{%
113   \edef\LWR@tempone{\#2}%
114   \setcounter{LWR@tempcountone}{-1*\real{\LWR@tempone}} % space
115   #1transform:rotate(\arabic{LWR@tempcountone}deg); % space
116 }

```

\LWR@scalestyle {*prefix*} {*xscale*} {*yscale*}

Prints the scale style with the given prefix.

prefix is -ms- or -webkit- or nothing, and is used to generate three versions of the transform:scale style.

```

117 \newcommand*{\LWR@scalestyle}[3]{%
118   #1transform:scale(#2,#3);
119 }

```

§ 286.4 \includegraphics

\LWR@opacity For HTML, used only for \includegraphics.

\LWR@opacity may be set by the transparent package.

```

120 \def\LWR@opacity{1}

```

\LWR@imagesizebox Used to determine the actual image size if needed.

```

121 \newsavebox{\LWR@imagesizebox}

```

\LWR@HTML@Gin@setfile {*w*} {*h*} {*filename*} Sets the parsed filename for HTML output.

```

122 \newcommand*{\LWR@HTML@Gin@setfile}[3]{%
123     \xdef\LWR@parsedfilename{#3}%
124 }
```

Key [Gin] class css class for the image.

Define the new class key for the print-mode version of \includegraphics, which is enabled inside a \teximage.

```

125 \AtBeginDocument{%
126 \define@key{Gin}{class}{}
127 \define@key{Gin}{alt}{}
128 }
```

\LWR@replaceEPSSVG

Usually, references to EPS files become SVG files, but if the `epstopdf` package is being used, it automatically converts EPS to PDF, and the following must NOT be done.

```

129 \AtBeginDocument{%
130 \@ifpackageloaded{epstopdf}{%
131 {
132     \newcommand*{\LWR@replaceEPSSVG}{%
133 }{%
134     \newcommand*{\LWR@replaceEPSSVG}{%
135         \StrSubstitute{\LWR@tempone}{.eps}{.svg}[\LWR@tempone]%
136         \StrSubstitute{\LWR@tempone}{.EPS}{.SVG}[\LWR@tempone]%
137     }%
138 }%
139 }
```

\LWR@ig@wpimagesizes * [<2: options>] [<3: options>] [<4: filename}]

If formatting for a word processor, find and set the actual image size, without rotation, using PDF instead of SVG to find the original bounding box:

```

140 \newcommand*{\LWR@ig@wpimagesizes}[4]{%
141     \ifbool{FormatWP}{%
142         \begingroup%
143         \LWR@restoreorigformatting%
144         \ifpdf%
145             \appto{\LWR@restoreorigformatting}{%
146                 \DeclareGraphicsExtensions{%
147                     .pdf,.PDF,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG%
148                 }%
149             }%
150         \else%
151             \ifXeTeX%
152                 \appto{\LWR@restoreorigformatting}{%
153                     \DeclareGraphicsExtensions{%
154                         .pdf,.PDF,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG%
155                     }%
156                 }%
157             \else%
158                 \appto{\LWR@restoreorigformatting}{%
159                     \DeclareGraphicsExtensions{%
```

```
160           .eps,.EPS,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG%
161       }%
162   }%
163   \fi%
164   \ifpdf
165   \define@key{Gin}{angle}{%
166   \IfBooleanTF{#1}%
167   {%
168       \IfValueTF{#3}%
169       {%
170           \global\sbox{\LWR@imagesizebox}{%
171               \LWR@originincludegraphics*[#2][#3][#4]%
172           }%
173       }%
174   }%
175   \IfValueTF{#2}%
176   {%
177       \global\sbox{\LWR@imagesizebox}{%
178           \LWR@originincludegraphics*[#2][#4]%
179       }%
180   }{%
181       \global\sbox{\LWR@imagesizebox}{%
182           \LWR@originincludegraphics*[#4]%
183       }%
184   }%
185   }%
186 }% starred
187 {%
188     \IfValueTF{#3}%
189     {%
190         \global\sbox{\LWR@imagesizebox}{%
191             \LWR@originincludegraphics[#2][#3][#4]%
192         }%
193     }%
194     {%
195         \IfValueTF{#2}%
196         {%
197             \global\sbox{\LWR@imagesizebox}{%
198                 \LWR@originincludegraphics[#2][#4]%
199             }%
200         }{%
201             \global\sbox{\LWR@imagesizebox}{%
202                 \LWR@originincludegraphics[#4]%
203             }%
204         }%
205     }%
206 }% not starred
207 \endgroup%
208 \settowidth{\LWR@igwidth}{\usebox{\LWR@imagesizebox}}%
209 \global\renewcommand*{\LWR@igwidthstyle}{%
210     width:\LWR@printlength{\LWR@igwidth}%
211 }%
212 \settoheight{\LWR@igheight}{\usebox{\LWR@imagesizebox}}%
213 \global\renewcommand*{\LWR@igheightstyle}{%
214     height:\LWR@printlength{\LWR@igheight}%

```

```

215      }%
216  }% FormatWP
217 }
```

\LWR@ig@htmltag For the HTML reference, add the graphicspath, filename, extension, alt tag, style, and class.

```

218 \newcommand*\LWR@ig@htmltag{%
219     img\LWR@indentHTML%
220     src="%
221     \detokenize\expandafter{\LWR@parsedfilename}%
222     "\LWR@indentHTML%
```

Only include a style tag if a width, height, angle, or scale was given:

```

223 \ifthenelse{
224     \NOT\equal{\LWR@igwidthstyle}{} \OR
225     \NOT\equal{\LWR@igheightstyle}{} \OR
226     \NOT\equal{\LWR@igorigin}{} \OR
227     \NOT\equal{\LWR@igangle}{} \OR
228     \NOT\equal{\LWR@igxscale}{1} \OR
229     \NOT\equal{\LWR@igyscale}{1}
230 }%
231 {%
232     style="\LWR@indentHTML
233     \ifthenelse{\NOT\equal{\LWR@igwidthstyle}{}%
234         {\LWR@igwidthstyle;\LWR@indentHTML}{}%
235     \ifthenelse{\NOT\equal{\LWR@igheightstyle}{}%
236         {\LWR@igheightstyle;\LWR@indentHTML}{}%
237     \ifthenelse{\NOT\equal{\LWR@igorigin}{}%
238         {%
239             transform-origin: \LWR@originnames{\LWR@igorigin};%
240             \LWR@indentHTML%
241         }%
242     \ifthenelse{\NOT\equal{\LWR@igangle}{}%
243     {%
244         \LWR@rotstyle{-ms-}{\LWR@igangle}\LWR@indentHTML
245         \LWR@rotstyle{-webkit-}{\LWR@igangle}\LWR@indentHTML
246         \LWR@rotstyle{}{\LWR@igangle }\LWR@indentHTML
247     }%
248     \ifthenelse{%
249         \NOT\equal{\LWR@igxscale}{1}\OR%
250         \NOT\equal{\LWR@igyscale}{1}%
251     }%
252     {%
253         \LWR@scalestyle{-ms-}{\LWR@igxscale}{\LWR@igyscale}%
254         \LWR@indentHTML
255         \LWR@scalestyle{-webkit-}{\LWR@igxscale}{\LWR@igyscale}%
256         \LWR@indentHTML
257         \LWR@scalestyle{}{\LWR@igxscale}{\LWR@igyscale}%
258         \LWR@indentHTML
259     }%
260     %
261     \ifthenelse{\NOT\equal{\LWR@opacity}{1}}%
```

```

262           {opacity:\LWR@opacity;\LWR@indentHTML}{}%
263           %
264           "\LWR@indentHTML%
265       }{}%

```

Set the class and alt tag:

```

266   class="\LWR@igclass"\LWR@indentHTML%
267   alt="\AltTextOpen\LWR@igalt\AltTextClose" \LWR@orignewline%
268 }% end of image tags

```

\LWR@includegraphicsb * [<2: options>] [<3: options>] [<4: filename]
 graphics syntax is \includegraphics * [<llx, lly>] [<urx, ury>] {[file]}
 graphicx syntax is \includegraphics [<key values>] {[file]}

If #3 is empty, only one optional argument was given, thus graphicx syntax.

If using \epsfig or \psfig from the epsfig package, #4 will be \LWR@epsfig@filename, which will have been set by the file or figure keys. Therefore, #4 must not be used until after the keys have been processed.

```

269 \NewDocumentCommand{\LWR@includegraphicsb}{s o o m}
270 {%

```

Start the image tag on a new line, allow PDF output word wrap:

```
271   \LWR@origtilde \LWR@orignewline%
```

Temporarily compute \ linewidth, \textwidth, \textheight arguments with a 6x9 inch size until the next \endgroup.

```
272   \begin{LWR@setvirtualpage}%
```

For correct em sizing during the width and height conversions:

```
273   \large%
```

Reset some defaults, possibly will be changed below if options were given:

```

274   \setlength{\LWR@igwidth}{0pt}%
275   \setlength{\LWR@igheight}{0pt}%
276   \renewcommand*\{\LWR@igwidthstyle}{}%
277   \renewcommand*\{\LWR@igheightstyle}{}%
278   \renewcommand*\{\LWR@igorigin}{}%
279   \renewcommand*\{\LWR@igangle}{}%
280   \renewcommand*\{\LWR@igxscale}{1}%
281   \renewcommand*\{\LWR@igyscale}{1}%
282   \renewcommand*\{\LWR@igclass}{inlineimage}%

283   \ifdefvoid{\LWR@ThisAltText}{%
284     \edef\LWR@igalt{\ImageAltText}%
285   }{%
286     \edef\LWR@igalt{\LWR@ThisAltText}%
287   }%

```

If #3 is empty, only one optional argument was given, thus graphicx syntax:

```

288   \IfValueF{#3}{%
289     \IfValueTF{#2}{%
290       {\setkeys{igraph}{#2}}%

```

```

291           {\setkeys{igraph}{}}
292       }%

```

Fully expand and detokenize the filename, changing the file extension to .svg if necessary.

```

293   \begingroup%
294   \LetLtxMacro\Gin@setfile\LWR@HTML@Gin@setfile%
295   \edef\LWR@tempone{\#4}%
296   \StrSubstitute{\LWR@tempone}{.pdf}{.svg}[\LWR@tempone]%
297   \StrSubstitute{\LWR@tempone}{.PDF}{.SVG}[\LWR@tempone]%
298   \LWR@replaceEPSSVG%
299   \xdef\LWR@parsedfilename{\LWR@tempone}%
300   \Ginclusion@graphics{\detokenize\expandafter{\LWR@tempone}}%
301   \endgroup%
302   \filename@parse{\LWR@parsedfilename}%
303   \LWR@traceinfo{\LWR@parsedfilename is \LWR@parsedfilename}%
304 % \LWR@sanitize{\LWR@parsedfilename}%

```

If formatting for a word processor, find and set the actual image size, without rotation, using PDF instead of SVG to find the original bounding box:

```
305   \LWR@ig@wpimagesizes{\#1}{\#2}{\#3}{\#4}%
```

Create the HTML reference with the graphicspath, filename, extension, alt tag, style, and class:

```

306   \LWR@traceinfo{\LWR@includegraphicsb: about to create href}%
307   \href{\LWR@parsedfilename}%
308   {% start of href
309     \LWR@traceinfo{\LWR@includegraphicsb: about to \LWR@htmltag}%
310     \LWR@htmltag{\LWR@ig@htmltag}%
311   }% end of href

```

Return to original page size and font size:

```
312   \end{\LWR@setvirtualpage}%

```

Clear the single-use alt text:

```

313   \gdef\LWR@ThisAltText{}%
314   \LWR@traceinfo{\LWR@includegraphicsb done}%
315 }

```

\includegraphics [⟨key=val⟩] {⟨filename⟩}

Handles width and height, converted to fixed width and heights.

The user should always use no file suffix in the document source.

```

316 \AtBeginDocument{%
317 %
318 \LWR@traceinfo{Patching \includegraphics.}%
319 %
320 \LetLtxMacro\LWR@origin\includegraphics\includegraphics
321 %
322 }

```

This graphic should trigger an HTML paragraph even if alone, so ensure that are doing paragraph handling:

```
323 \LWR@traceinfo{includegraphics}%
324 \LWR@ensuredoingapar%
325 \LWR@includegraphicsb%
326 }% includegraphics
327 }% AtBeginDocument
```

§ 286.5 Boxes

\LWR@rotboxorigin Holds the origin key letters.

```
328 \newcommand*{\LWR@rotboxorigin}{}%
```

\LWR@originname {⟨letter⟩}

Given one L^AT_EX origin key value, translate into an HTML origin word:

```
329 \newcommand*{\LWR@originname}[1]{%
330   \ifthenelse{\equal{#1}{t}}{top}{}
331   \ifthenelse{\equal{#1}{b}}{bottom}{}
332   \ifthenelse{\equal{#1}{c}}{center}{}
333   \ifthenelse{\equal{#1}{l}}{left}{}
334   \ifthenelse{\equal{#1}{r}}{right}{}
335 }
```

\LWR@originnames {⟨letters⟩}

Given one- or two-letter L^AT_EX origin key values, translate into HTML origin words:

```
336 \newcommand*{\LWR@originnames}[1]{%
337 \StrChar{#1}{1}[\LWR@strresult]%
338 \LWR@originname{\LWR@strresult}%
339 \StrChar{#1}{2}[\LWR@strresult]%
340 \LWR@originname{\LWR@strresult}%
341 }
```

Handle the origin key for \rotatebox:

```
342 \define@key{krotbox}{origin}{%
343 \renewcommand*{\LWR@rotboxorigin}{#1}%
344 }
```

These keys are ignored:

```
345 \define@key{krotbox}{x}{}
346 \define@key{krotbox}{y}{}
347 \define@key{krotbox}{units}{}
```

\rotatebox [⟨keyval list⟩] {⟨angle⟩} {⟨text⟩}

```
348 \AtBeginDocument{
```

The HTML version:

349 \NewDocumentCommand{\LWR@HTML@rotatebox}{O{} m +m}{%

Reset the origin to “none-given”:

350 \renewcommand*\LWR@rotboxorigin{}

Process the optional keys, which may set \LWR@rotateboxorigin:

351 \setkeys[krotbox]{#1}%

Select `inline-block` so that `HTML` will transform this span:

```
352 \LWR@htmltagc{%
353     span\LWR@indentHTML
354     style="\LWR@indentHTML
355     display: inline-block; \LWR@indentHTML
```

If an origin was given, translate and print the origin information:

```
356     \ifthenelse{\NOT\equal{\LWR@rotboxorigin}{}}{%
357         {transform-origin: \LWR@originnames{\LWR@rotboxorigin}; \LWR@indentHTML}%
358     }%
```

Print the rotation information:

```
359     \LWR@rotstyle{-ms-}{#2}\LWR@indentHTML
360     \LWR@rotstyle{-webkit-}{#2}\LWR@indentHTML
361     \LWR@rotstyle{}{#2}"\LWR@orignewline%
362 }\LWR@orignewline%
```

Print the text to be rotated:

```
363 \begin{LWR@nestspan}%
364 #3%
```

Close the span:

```
365 \LWR@htmltagc{/span}%
366 \end{LWR@nestspan}%
367 }
```

The high-level interface:

```
368 \LWR@formatted{rotatebox}
369
370 }% AtBeginDocument

\scalebox {<h-scale>} [<v-scale>] {<text>}

371 \AtBeginDocument{
```

The `HTML` version:

```
372 \NewDocumentCommand{\LWR@HTML@scalebox}{m o m}{%
```

Select inline-block so that HTML will transform this span:

```
373 \LWR@htmltagc{%
374     span\LWR@indentHTML
375     style="\LWR@indentHTML
376     display: inline-block; \LWR@indentHTML
```

Print the scaling information:

```
377     \LWR@scalestyle{-ms-}{#1}{\IfNoValueTF{#2}{#1}{#2}}\LWR@indentHTML
378     \LWR@scalestyle{-webkit-}{#1}{\IfNoValueTF{#2}{#1}{#2}}\LWR@indentHTML
379     \LWR@scalestyle{}{#1}{\IfNoValueTF{#2}{#1}{#2}}
380     "\LWR@orignewline
381 }\LWR@orignewline%
```

Print the text to be scaled:

```
382 \begin{\LWR@nestspan}%
383 #3%
```

Close the span:

```
384 \LWR@htmltagc{/span}%
385 \end{\LWR@nestspan}%
386 }
```

The high-level interface:

```
387 \LWR@formatted{scalebox}%
388
389 }% AtBeginDocument
```

```
\reflectbox {\langle text \rangle}
```

```
390 \AtBeginDocument{
391
392 \newcommand{\LWR@HTML@reflectbox}[1]{%
393 \scalebox{-1}[1]{#1}%
394 }% \reflectbox
395
396 \LWR@formatted{reflectbox}
397
398 }% AtBeginDocument
```

```
\resizebox {\langle h-length \rangle} {\langle v-length \rangle} {\langle text \rangle}
```

Simply prints its text argument.

```
399 \AtBeginDocument{
400
401 \NewDocumentCommand{\LWR@HTML@resizebox}{s m m m}{%
```

```
402 #4%
403 }
404
405 \LWR@formatted{resizebox}
406
407 }% AtBeginDocument
```

File 187 l warp-graphicx.sty**§ 287 Package graphicx**

Pkg graphicx graphicx is emulated.

graphicx loads graphics, which also loads l warp-graphics, which remembers the original graphics definitions for use inside a `\textrimage`, and then patches them `\AtBeginDocument` for HTML output.

l warp-graphics handles the syntax of either `graphics` or `graphicx`.

for HTML output: 1 \LWR@ProvidesPackagePass{graphicx}[2017/06/01]

File 188 l warp-grffile.sty**§ 288 Package grffile**

Pkg grffile grffile is supported as-is. File types known to the browser are displayed, and unknown file types are given a link. Each PDF image for print mode should be accompanied by an SVG, PNG, or JPG version for HTML.

l warp-grffile now exists as a placeholder since grffile used to be emulated by l warp, and thus older versions of l warp-grffile may exist and should be overwritten by this newer version.

for HTML output: 1 \LWR@ProvidesPackagePass{grffile}[2017/06/30]

File 189 l warp-grid.sty**§ 289 Package grid**

Pkg grid grid is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{grid}[2009/06/16]

2 \newenvironment*{gridenv}{}{}

File 190 l warp-grid-system.sty**§ 290 Package grid-system**

(Emulates or patches code by MARCUS BITZL.)

Pkg grid-system grid-system is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{grid-system}[2014/02/16]

(\ifdef is in case the older syntax is removed.)

```
2 \AtBeginEnvironment{Row}{\setlength{\ linewidth}{6in}}
3
4 \ifdef{\endrow}{}
5   \AtBeginEnvironment{row}{\setlength{\ linewidth}{6in}}
6 }()
7
8 \renewcommand{\gridsystem@finishcell}{\hspace{\gridsystem@cellsep}}
```

File 191 l warp-gridset.sty**§ 291 Package gridset**

Pkg gridset gridset is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{gridset}[2020-02-12]

```
2 \newcommand*{\gridbase}(){}
3 \newcommand*{\gridinterval}){}
4 \newcommand*{\SavePos}[1]({})
5 \ifLuaTeX
6 \else
7 \let\savepos\SavePos
8 \fi
9 \newcommand*{\vskipnextgrid}){}
10 \newcommand*{\thegridinfo}[1]{\thegridinfo}
11 \newcommand*{\theposinfo}[1]{\theposinfo}
12 \newcommand*{\theypos}[1]{\theypos}
```

File 192 l warp-hang.sty**§ 292 Package hang**

(Emulates or patches code by ANDREAS NOLDA.)

Pkg hang hang is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{hang}[2017/02/18]

```
2 \newlength{\hangingindent}
3 \setlength{\hangingindent}{1em}
4 \newlength{\hangingleftmargin}
5 \setlength{\hangingleftmargin}{0em}
6
7 \newcommand*{\LWR@findhangingleftmargin}{%
8   \setlength{\LWR@templengthone}{\hangingleftmargin}%
9   \addtolength{\LWR@templengthone}{\hangingindent}%
10 }
11
12 \newenvironment{hangingpar}
13 {
14   \LWR@findhangingleftmargin%
15   \BlockClass[% 
16     \LWR@print@mbox{margin-left:\LWR@printlength{\LWR@templengthone}} ; %
17     \LWR@print@mbox{text-indent:-\LWR@printlength{\hangingindent}}%
18   ]%
19   {hangingpar}%
20 }
21 {\endBlockClass}
22
23 \newenvironment{hanginglist}
24 {%
25   \renewcommand*{\LWR@printcloselist}{\LWR@printcloseitemize}%
26   \renewcommand*{\LWR@printopenlist}{%
27     \LWR@findhangingleftmargin%
28     ul style=%
29       \LWR@print@mbox{list-style-type:none;} % extra space
30       \LWR@print@mbox{%
31         margin-left:\LWR@printlength{\LWR@templengthone}%
32       } ; % extra space
33       \LWR@print@mbox{%
34         text-indent:-\LWR@printlength{\hangingindent}}%
35       }%
36     "%
37   }%
38   \let\item\LWR@itemizeitem%
39   \list{}{%
40 }
41 {\endlist}
42
43 \newenvironment{compacthang}
44 {\hanginglist}
45 {\endhanginglist}
46
47 \newlength{\labeledleftmargin}
48 \setlength{\labeledleftmargin}{0em}
49
50 \newenvironment{labeledpar}[2]
51 {%
52   \BlockClass[%
```

```

53      \LWR@findhangingleftmargin%
54      \LWR@print@mbox{margin-left:\LWR@printlength{\LWR@templengthone}} ; %
55      \LWR@print@mbox{text-indent:-\LWR@printlength{\hangingindent}}%
56  ]{\labeledpar}#2%
57 }
58 {\endBlockClass}
59
60 \newenvironment{labeledlist}[1]
61 {\hanginglist}
62 {\endhanginglist}
63
64 \newenvironment{compactlabel}[1]
65 {\hanginglist}
66 {\endhanginglist}

```

File 193 **l warp-hanging.sty**

§ 293 Package **hanging**

Pkg **hanging** **hanging** is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{hanging}[2009/09/02]

```

2 \@ifclassloaded{memoir}{%
3 \let\hangpara\relax
4 \let\hangparas\relax
5 \let\endhangparas\relax
6 \let\hangpunct\relax
7 \let\endhangpunct\relax
8 }{}%
```

\hangpara {\<indent>} {\<afternum>}

Use **hangparas** instead.

```
9 \newcommand*{\hangpara}[2]{}
```

Env **hangparas** {\<indent>} {\<afternum>}

```

10 \newenvironment*{hangparas}[2]
11 {%
12   \BlockClass[%
13     \LWR@print@mbox{margin-left:\LWR@printlength{\#1}} ; %
14     \LWR@print@mbox{text-indent:-\LWR@printlength{\#1}}%
15   ]%
16   {hangingpar}%
17 }
18 {\endBlockClass}
```

Env **hangpunct**

```
19 \newenvironment*{hangpunct}
```

```

20 {\BlockClass{hangpunct}}
21 {\endBlockClass}

22 \newcommand{\nhpt}{.}
23 \newcommand{\nqlq}{`}
24 \newcommand{\nhrq}{`}

```

File 194 **l warp-hhline.sty**

§ 294 Package **hhline**

(Emulates or patches code by DAVID CARLISLE.)

Pkg **hhline** **hhline** is patched for use by **l warp**.

Only a rudimentary emulation is provided so far. If the argument contains any = characters, the result is a double \hline. If none, the result is a single \hline.

for HTML output: 1 \LWR@ProvidesPackagePass{hhline}[2014/10/28]

```

2 \newrobustcmd*\LWR@HTML@hhline}[1]{%
3   \edef\LWR@tempone{\detokenize\expandafter{\#1}}%
4   \IfSubStr[1]{\LWR@tempone}{=}{\hline\hline}{\hline}%
5 }
6 % ^^A or:
7 % ^^A \newrobustcmd*\LWR@HTML@hhline}[1]{\LWR@getmynexttoken}%
8
9 \AtBeginDocument{\LWR@expandableformatted{hhline}}

```

For MATHJAX. A simple \hline is used.

```

10 \begin{warpMathJax}
11 \CustomizeMathJax{\newcommand{\hhline}[1]{\hline}}
12 \end{warpMathJax}

```

File 195 **l warp-hypbmsec.sty**

§ 295 Package **hypbmsec**

Pkg **hypbmsec** **hypbmsec** is emulated by the **l warp** core.

for HTML output: 1 \LWR@ProvidesPackageDrop{hypbmsec}[2016/05/16]

File 196 **l warp-hypcap.sty**

§ 296 Package **hypcap**

Pkg **hypcap** **hypcap** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{hypcap}[2016/05/16]

```
2 \newcommand*\{\capstart\}{}  
3 \newcommand*\{\hypcapspace\}{}  
4 \newcommand*\{\hypcapref\}[1]{}  
5 \newcommand*\{\capstartfalse\}{}  
6 \newcommand*\{\capstartrue\}{}

---


```

File 197 **l warp-hypdestopt.sty**

§ 297 Package **hypdestopt**

Pkg hypdestopt **hypdestopt** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{hypdestopt}[2016/05/21]

File 198 **l warp-hypernat.sty**

§ 298 Package **hypernat**

Pkg hypernat **hypernat** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{hypernat}[2001/07/09]

File 199 **l warp-hyperref.sty**

§ 299 Package **hyperref**

(Emulates or patches code by SEBASTIAN RAHTZ, HEIKO OBERDIEK.)

Pkg hyperref **hyperref** is emulated.

for HTML output:

```
1 % \LWR@ProvidesPackageDrop{hyperref}% not allowed  
2 % \ProvidesPackage{l warp-\#1-\#2}% not allowed  
3 \PackageInfo{l warp}{%  
4 Using the l warp HTML version of package ‘hyperref’, \MessageBreak  
5 and discarding options.\MessageBreak  
6 (Not using \protect\ProvidesPackage, so that other packages\MessageBreak  
7 do not attempt to patch l warp’s version of ‘hyperref’.)\MessageBreak  
8  
9 \DeclareOption*{}  
  
10 % \ProcessOptions\relax  
11 \let\ds@\empty% from the original \ProcessOptions  
12 \edef\@curroptions{\% l warp modification to \ProcessOptions  
13 \@process@ptions\relax% from the original \ProcessOptions
```

```
14 \newcommand*{\hypersetup}[1]{}
15 \newcommand*{\hyperbaseurl}[1]{}
```

\hyperimage {⟨URL⟩} {⟨alt text⟩}

Insert an image with alt text:

```
16 \NewDocumentCommand{\LWR@hyperimageb}{m +m}{%
17   \LWR@ensuredoingapar%
18   \def\LWR@templink{\#1}%
19   \onelevel@sanitize\LWR@templink%
20   \LWR@htmlltag{img src="\LWR@templink" alt="#2" class="hyperimage"}%
21   \LWR@ensuredoingapar%
22   \endgroup%
23 }
24
25 \newrobustcmd*{\hyperimage}{%
26   \begingroup%
27   \LWR@linkcatcodes%
28   \LWR@hyperimageb%
29 }
30
```

\hyperdef {⟨1: category⟩} {⟨2: name⟩} {⟨3: text⟩}

Creates an HTML anchor to category.name with the given text.

```
31 \NewDocumentCommand{\LWR@hyperdefb}{m m +m}{%
32   \LWR@ensuredoingapar%
33   \LWR@sublabel{\#1.\#2}%
34   \#3%
35   \endgroup%
36 }
37
38 \newcommand*{\hyperdef}{%
39   \begingroup%
40   \LWR@linkcatcodes%
41   \LWR@hyperdefb%
42 }
43
```

\LWR@hyperrefb {⟨1: URL⟩} {⟨2: category⟩} {⟨3: name⟩} {⟨4: text⟩}

Creates an HTML link to URL#category.name with the given text.

```
44 \newcommand{\LWR@hyperreffinish}[1]{%
45   \begingroup%
46   \RenewDocumentCommand{\ref}{}{\LWR@ref@ignorestar}%
47   \#1%
48   \endgroup%
49   \LWR@htmlltag{/a}%
50 }
51
52 \newcommand*{\LWR@hyperrefbb}[3]{%
53   \LWR@htmlltag{%
54     a href="%
```

```

55          \detokenize\expandafter{\#1}\LWR@hashmark%
56          \detokenize\expandafter{\#2}. \detokenize\expandafter{\#3}%
57          "%
58          \LWR@addlinktitle%
59      }%
60      \endgroup%
61      \LWR@hyperreffinish%
62 }
63
64 \newrobustcmd*\{\LWR@hyperrefb}{%
65     \begingroup%
66     \LWR@linkcatcodes%
67     \LWR@hyperrefbb%
68 }

```

\LWR@hyperrefc [⟨label⟩] {⟨text⟩}

Creates text as an `LATEX` label.

```

69
70 \NewDocumentCommand{\LWR@hyperrefcb}{O{label}}{%
71     \LWR@startref{\#1}%
72     \endgroup%
73     \LWR@hyperreffinish%
74 }
75
76 \newcommand*\{\LWR@hyperrefc}{%
77     \begingroup%
78     \LWR@linkcatcodes%
79     \LWR@hyperrefcb%
80 }

```

\hyperref {⟨1: URL⟩} {⟨2: category⟩} {⟨3: name⟩} {⟨4: text⟩} — or —
[⟨1: label⟩] {⟨2: text⟩}

```

81 \DeclareRobustCommand*\{\hyperref}{%
82     \LWR@ensuredoingapar%
83     \@ifnextchar[\LWR@hyperrefc\LWR@hyperrefb%
84 }

```

\hypertarget {⟨name⟩} {⟨text⟩}

Creates an anchor to name with the given text.

```

85 \NewDocumentCommand{\LWR@hypertargetb}{m +m}{%
86     \label{LWR-ht-\#1}%
87     #2%
88     \endgroup%
89 }
90
91 \newcommand*\{\hypertarget}{%
92     \begingroup%
93     \LWR@linkcatcodes%
94     \LWR@hypertargetb%
95 }

```

```
\hyperlink  {\langle name\rangle } {\langle text\rangle }
```

Creates a link to the anchor created by hypertarget, with the given link text.

Declared because also defined by memoir.

```
96 \DeclareDocumentCommand{\LWR@hyperlinkb}{m}{%
97     \LWR@hyperrefcb[LWR-ht-#1]%
98 }
99
100 \DeclareDocumentCommand{\hyperlink}{}{%
101     \LWR@ensuredoingapar%
102     \begingroup%
103     \LWR@linkcatcodes%
104     \LWR@hyperlinkb%
105 }
```

```
\autoref  * {\langle label\rangle }
```

For HTML, \cleveref is used instead.

```
106 \NewDocumentCommand{\autoref}{s m}{%
107     \IfBooleanTF{#1}{\ref{#2}}{\cref{#2}}%
108 }
```

```
\autopageref {\langle label\rangle }
```

For HTML, \cleveref is used instead.

```
109 \NewDocumentCommand{\autopageref}{s m}{%
110     \IfBooleanTF{#1}{\cpageref{#2}}{\cref{#2}}%
111 }
```

```
\pdfstringdef {\langle macroname\rangle } {\langle TEXstring\rangle }
```

```
112 \newcommand{\pdfstringdef}[2]{}
```

```
\pdfbookmark [⟨level⟩] {⟨text⟩} {⟨name⟩}
```

```
113 \newcommand{\pdfbookmark}[3][]{}
```

```
\currentpdfbookmark {⟨text⟩} {⟨name⟩}
```

```
114 \newcommand{\currentpdfbookmark}[2][]{}
```

```
\subpdfbookmark {⟨text⟩} {⟨name⟩}
```

```
115 \newcommand{\subpdfbookmark}[2][]{}
```

```
\belowpdfbookmark {⟨text⟩} {⟨name⟩}
```

```
116 \newcommand{\belowpdfbookmark}[2][]{}
```

```
\texorpdfstring {⟨TEXstring⟩} {⟨PDFstring⟩}
117 \newcommand{\texorpdfstring}[2]{#1}

{⟨commands⟩}
118 \newcommand{\pdfstringdefDisableCommands}[1] {}

\hypercalcbp {⟨dimen⟩} From hyperref.
119 \def\hypercalcbp#1{%
120   \strip@pt\dimexpr 0.99626401\dimexpr(#1)\relax\relax
121 }%

\Acrobatmenu {⟨menuoption⟩} {⟨text⟩}
122 \newcommand{\Acrobatmenu}[2] {}

\TextField [⟨parameters⟩] {⟨label⟩}
123 \DeclareRobustCommand{\TextField}[2][]{}

\CheckBox [⟨parameters⟩] {⟨label⟩}
124 \DeclareRobustCommand{\CheckBox}[2][]{}

\ChoiceMenu [⟨parameters⟩] {⟨label⟩} {⟨choices⟩}
125 \DeclareRobustCommand{\ChoiceMenu}[3][]{}

\PushButton [⟨parameters⟩] {⟨label⟩}
126 \DeclareRobustCommand{\PushButton}[2][]{}

\Submit [⟨parameters⟩] {⟨label⟩}
127 \DeclareRobustCommand{\Submit}[2][]{}

\Reset [⟨parameters⟩] {⟨label⟩}
128 \DeclareRobustCommand{\Reset}[2][]{}

\Gauge [⟨parameters⟩] {⟨label⟩}
129 \DeclareRobustCommand{\Gauge}[2][]{}

\LayoutTextField {⟨label⟩} {⟨field⟩}
130 \newcommand*\LayoutTextField[2]{}  

```

```
\LayoutChoiceField  {\langle label\rangle} {\langle field\rangle}
131 \newcommand*{\LayoutChoiceField}[2]{}

\LayoutCheckField  {\langle label\rangle} {\langle field\rangle}
132 \newcommand*{\LayoutCheckField}[2]{}

\MakeRadioField   {\langle width\rangle} {\langle height\rangle}
133 \newcommand*{\MakeRadioField}[2]{}

\MakeCheckField   {\langle width\rangle} {\langle height\rangle}
134 \newcommand*{\MakeCheckField}[2]{}

\MakeTextField    {\langle width\rangle} {\langle height\rangle}
135 \newcommand*{\MakeTextField}[2]{}

\MakeChoiceField  {\langle width\rangle} {\langle height\rangle}
136 \newcommand*{\MakeChoiceField}[2]{}

\MakeFieldButton  {\langle text\rangle}
137 \newcommand{\MakeFieldButton}[1]{}
```

File 200 l warp-hyperxmp.sty**§ 300 Package hyperxmp**

Pkg hyperxmp hyperxmp is ignored.

for HTML output: Discard all options for l warp-hyperxmp:

```
1 \LWR@ProvidesPackageDrop{hyperxmp}[2018/11/27]
```

File 201 l warp-hyphenat.sty**§ 301 Package hyphenat**

Pkg hyphenat hyphenat is emulated during HTML output, while the print-mode version is used inside a lateximage.

for HTML output: 1 \LWR@ProvidesPackagePass{hyphenat}[2009/09/02]

```

2 \LetLtxMacro{\LWRHYNAT@origtextnhtt}{\textnhtt}
3 \LetLtxMacro{\LWRHYNAT@orignhttfamily}{\nhttfamily}
4 \LetLtxMacro{\LWRHYNAT@orignohyphens}{\nohyphens}
5 \LetLtxMacro{\LWRHYNAT@origbshyp}{\bshyp}
6 \LetLtxMacro{\LWRHYNAT@origfshyp}{\fshyp}
7 \LetLtxMacro{\LWRHYNAT@origdothyp}{\dothyp}
8 \LetLtxMacro{\LWRHYNAT@origcolonhyp}{\colonhyp}
9 \LetLtxMacro{\LWRHYNAT@orighyp}{\hyp}
10
11 \LetLtxMacro{\textnhtt}{\texttt}
12 \LetLtxMacro{\nhttfamily}{\ttfamily}
13
14 \renewcommand{\nohyphens}[1]{#1}
15 \renewrobustcmd{\bshyp}{%
16   \ifmmode\backslash\else\textbackslash\fi%
17 }
18 \renewrobustcmd{\fshyp}{/}
19 \renewrobustcmd{\dothyp}{.}
20 \renewrobustcmd{\colonhyp}{:}
21 \renewrobustcmd{\hyp}{-}
22
23 \appto{\LWR@restoreorigformatting}{%
24 \LetLtxMacro{\textnhtt}{\LWRHYNAT@origtextnhtt}
25 \LetLtxMacro{\nhttfamily}{\LWRHYNAT@orignhttfamily}
26 \LetLtxMacro{\nohyphens}{\LWRHYNAT@orignohyphens}
27 \LetLtxMacro{\bshyp}{\LWRHYNAT@origbshyp}
28 \LetLtxMacro{\fshyp}{\LWRHYNAT@origfshyp}
29 \LetLtxMacro{\dothyp}{\LWRHYNAT@origdothyp}
30 \LetLtxMacro{\colonhyp}{\LWRHYNAT@origcolonhyp}
31 \LetLtxMacro{\hyp}{\LWRHYNAT@orighyp}
32 }
```

File 202 **l warp-idxlayout.sty**

§ 302 Package **idxlayout**

(Emulates or patches code by THOMAS TITZ.)

Pkg **idxlayout** **idxlayout** is emulated.

for HTML output: Discard all options for **l warp-idxlayout**:

```

1 \LWR@ProvidesPackageDrop{idxlayout}[2012/03/30]

2 \newcommand{\LWR@indexprenote}{}
3
4 \preto{\printindex}{}
5
6 \LWR@orignewpage
7 \LWR@startpars
8
9 \LWR@indexprenote
10
```

```

11 }
12
13 \newcommand{\setindexprenote}[1]{\renewcommand{\LWR@indexprenote}{#1}}
14 \newcommand*{\noindexprenote}{\renewcommand{\LWR@indexprenote}{}}
15
16 \newcommand{\idxlayout}[1]{}
17 \newcommand*{\indexfont}{}
18 \newcommand*{\indexjustific}{}
19 \newcommand*{\indexsubsdelim}{}
20 \newcommand*{\indexstheadcase}{}

```

File 203 **l warp-ifoddpage.sty**

§ 303 Package **ifoddpage**

(Emulates or patches code by MARTIN SCHARRER.)

Pkg ifoddpage ifoddpage is emulated.

for HTML output Discard all options for l warp-ifoddpage:

```

1 \LWR@ProvidesPackageDrop{ifoddpage}[2016/04/23]

2 \newif\ifoddpage
3
4 \newif\ifoddpageoroneside
5
6 \DeclareRobustCommand{\checkoddpage}{\oddpage=true\oddpageoroneside=false}
7
8 \def\oddpage@page{1}
9
10 \def@ifoddpage{%
11     \expandafter\@firstoftwo
12 }
13
14 \def@ifoddpageoroneside{%
15     \expandafter\@firstoftwo
16 }

```

File 204 **l warp-imakeidx.sty**

§ 304 Package **imakeidx**

(Emulates or patches code by ENRICO GREGORIO.)

Pkg imakeidx imakeidx is patched for use by l warp.

letter headings When using *makeindex*, to match the print and HTML output's display of index letter headings, specify the l warp.ist style:

```
\makeindex[options={-s l warp.ist}]
```

(For HTML the `l warp.ist` style is used automatically, which displays letter headings. When using `xindy` the default style also displays letter headings.)

- index setup** See section 8.6.18 for how to setup `l warpmk` to process the indexes with `imakeidx`, both with and without shell escape.
- for HTML output:** 1 \LWR@ProvidesPackagePass{imakeidx}[2016/10/15]

Use the new HTML suffix:

```
2 \catcode`\_=12%
3 \define@key{imki}{name}{\def\imki{name{\#1_html}}}
4 \catcode`\_=8%
```

- \printindex** The HTML version of `\printindex`:

```
5 \catcode`\_=12%
6
7 \renewcommand*{\printindex}[1][\imki@jobname]{%
8 \LWR@orignewpage%
9 \LWR@startpars%
10 \ifstrequal{\#1}{\imki@jobname}{%
11   \@ifundefined{\#1@idxfile}{%
12     \imki@error{\#1}%
13   }{%
14     \imki@putindex{\#1}%
15   }%
16 }{%
17   \@ifundefined{\#1_html@idxfile}{\imki@error{\#1_html}}{\imki@putindex{\#1_html}}%
18 }%
19 }
20
21 \catcode`\_=8%
```

- \@index** The HTML version of `\@index`:

```
22 \catcode`\_=12%
23
24 \def@\index[#1]{%
25   \ifstrequal{\#1}{\imki@jobname}{%
26     {%
27       \@ifundefined{\#1@idxfile}{%
28         {%
29           \PackageWarning{l warp-imakeidx}{Undefined index file '#1'}%
30           \begingroup
31             \@sanitize
32             \imki@nowrindex%
33         }%
34       }{%
35         \edef@\idxfile{\#1}%
36         \begingroup
37           \@sanitize
38           \wrindex@\idxfile%
39       }%
39     }%
39   }%
39 }
```

```

40      }%
41      {%
42          \@ifundefined{#1_html@idxfile}%
43          {%
44              \PackageWarning{lwarp-imakeidx}{Undefined index file '#1_html'}%
45              \begingroup
46              \@sanitize
47              \imki@nowrindex%
48          }%
49          {%
50              \edef\@idxfile{#1_html}%
51              \begingroup
52              \@sanitize
53              \wrindex@\@idxfile%
54          }%
55      }%
56 }
57
58 \catcode`\_=8%

```

```

\item
\subitem
\subsubitem HTML versions of \item, etc.:
59 \appto\theindex{%
60     \let\item\LWR@indexitem%
61     \let\subitem\LWR@indexsubitem%
62     \let\subsubitem\LWR@indexsubsubitem%
63 }

```

```

\imki@wrindexentrysplit  {\langle file\rangle} {\langle entry\rangle} {\langle page\rangle}
\imki@wrindexentryunique {\langle file\rangle} {\langle entry\rangle} {\langle page\rangle}

```

While writing index entries, adds an HTML label, and writes the label's index instead of the page number:

```

64 \renewcommand\imki@wrindexentrysplit[3]{%
65 \addtocounter{LWR@autoindex}{1}%
66 \LWR@new@label{\LWRindex-\arabic{LWR@autoindex}}%
67 \expandafter\protected@write\csname#1@idxfile\endcsname{%
68     {\string\indexentry{\#2}{\arabic{LWR@autoindex}}}}%
69 }
70
71 \renewcommand\imki@wrindexentryunique[3]{%
72 \addtocounter{LWR@autoindex}{1}%
73 \LWR@new@label{\LWRindex-\arabic{LWR@autoindex}}%
74 \protected@write\indexfile{%
75     {\string\indexentry{\#1}{\#2}{\arabic{LWR@autoindex}}}}%
76 }
77
78 \def\imki@wrindexsplit#1#2{%
79 \imki@wrindexentrysplit{#1}{#2}{\thepage}%
80 \endgroup\imki@showidxentry{#1}{#2}%
81 \esphack%

```

```

82 }
83
84 \def\imki@wrindexunique#1#2{%
85 \imki@rwindexentryunique{#1}{#2}{\thepage}%
86 \endgroup\imki@showidxentry{#1}{#2}%
87 \oeshack%
88 }
89

```

\LWR@imki@setxdydefopts

Sets the `xindy` HTML options, ignoring the user's settings.

```

90 \newcommand*{\LWR@imki@setxdydefopts}{%
91   \edef\imki@options{ \space %
92     -M \space \LWR@xindyStyle\space %
93     -L \space \LWR@xindyLanguage\space %
94     -C \space \LWR@xindyCodepage\space %
95   }%
96 }

```

\LWR@imki@setdefopts {*<user options>*}

Sets the HTML options, added to the user's settings, depending on whether `makeindex` or `xindy` are used.

For `makeindex`, the user's choice is ignored, and only the `lwarp` version is used. (Only one style at a time is possible.)

For `xindy`, multiple modules may be specified, and the `lwarp` version is appended.

```

97 \newcommand*{\LWR@imki@setdefopts}[1]{%
98 \ifblank{#1}{%
99   \edef\imki@options{\space -s \space \LWR@makeindexStyle \space}%
100 \ifdefstring{\imki@progdefault}{xindy}{\LWR@imki@setxdydefopts}{}}%
101 \ifdefstring{\imki@progdefault}{texindy}{\LWR@imki@setxdydefopts}{}}%
102 \ifdefstring{\imki@progdefault}{truedxindy}{\LWR@imki@setxdydefopts}{}}%
103 }{%
104   \edef\imki@options{\space #1 \space}%
105 }%
106 }

```

\imki@makeindex Use the new HTML options:

```

107 \xpatchcmd{\imki@makeindex}
108   {\let\imki@options\space}
109   {\LWR@imki@setdefopts{} }%
110   {}
111   {\LWR@patcherror{imakeidx}{makeindex}}

```

Use the new HTML options.

```
112 \define@key{\imki}{options}{\LWR@imki@setdefopts{#1}}
```

\imki@resetdefaults Use the new HTML options:

```

113 \xpatchcmd{\imki@resetdefaults}
114   {\def\imki@options{}}
115   {\LWR@imki@setdefopts{}}
116   {}
117   {\LWR@patcherror{imakeidx}{resetdefaults}}

```

theindex was already defined \AtBeginDocument by the l warp core, so it must be redefined here similarly, but patched for imakeidx:

Env theindex

```

118 \AtBeginDocument{
119 \renewenvironment*{theindex}{%
120   \imki@maybeaddtotoc
121   \imki@indexlevel{\indexname}
122   \let\item\LWR@indexitem%
123   \let\subitem\LWR@indexsubitem%
124   \let\subsubitem\LWR@indexsubsubitem%
125 }{%
126 }% AtBeginDocument

```

Update to the new defaults:

```
127 \imki@resetdefaults
```

Update to the new patches:

\AtBeginDocument is because \@wrindex is previously defined as \AtBeginDocument in the l warp core.

```

128 \ifimki@splitindex
129   \let\imki@startidx\imki@startidxunique
130   \AtBeginDocument{\let@\wrindex\imki@wrindexunique}
131   \let\imki@putindex\imki@putindexunique
132   \let\imki@wrindexentry\imki@wrindexentryunique
133   \let\imki@startidxsplit@\undefined
134   \let\imki@wrindexsplit@\undefined
135   \let\imki@putindexsplit@\undefined
136 \else
137   \let\imki@startidx\imki@startidxsplit
138   \AtBeginDocument{\let@\wrindex\imki@wrindexsplit}
139   \let\imki@putindex\imki@putindexsplit
140   \let\imki@wrindexentry\imki@wrindexentrysplit
141   \let\imki@startidxunique@\undefined
142   \let\imki@wrindexunique@\undefined
143   \let\imki@putindexunique@\undefined
144 \fi

```

File 205 **l warp-index.sty**

§ 305 Package **index**

(Emulates or patches code by DAVID M. JONES.)

Pkg index index is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{index}[2004/01/20]

Use \theLWR@autoindex instead of \thepage. \@tempswattrue is used to force an immediate write to the index file instead of waiting until the end of the page.

```

2 \xpatchcmd{\newindex}
3   {\x@newindex[\thepage]}
4   {%
5     \@tempswattrue%
6     \x@newindex[\theLWR@autoindex]%
7   }
8   {}
9   {\LWR@patcherror{index}{newindex}}
10
11 \xpatchcmd{\renewindex}
12   {\x@renewindex[\thepage]}
13   {%
14     \@tempswattrue%
15     \x@renewindex[\theLWR@autoindex]%
16   }
17   {}
18   {\LWR@patcherror{index}{renewindex}}

```

Patched to set a new autoindex:

```

19 \xpatchcmd{\@wrindex}
20   {\begingroup}
21   {%
22     \addtocounter{\LWR@autoindex}{1}%           lwarp
23     \LWR@new@label{\LWRindex-\arabic{\LWR@autoindex}}%    lwarp
24     \begingroup%
25   }
26   {}
27   {\LWR@patcherror{index}{@wrindex}}

```

\AtBeginDocument lwarp core \lets \@wrindex to \LWR@wrindex. Since the index package has been loaded, \let to its version instead:

```

28 \let\LWR@index@\wrindex@\wrindex
29
30 \AtBeginDocument{
31 \let@\wrindex\LWR@index@\wrindex
32 }

```

Modified to add \index@prologue:

```

33 \AtBeginDocument{
34 \renewenvironment*{\theindex}{%
35   \LWR@indexsection{\indexname}%
36   \ifx\index@prologue\empty\else
37     \index@prologue
38     \bigskip

```

```

39   \fi
40   \let\item\LWR@indexitem%
41   \let\subitem\LWR@indexsubitem%
42   \let\subsubitem\LWR@indexsubsubitem%
43 }{%
44 }% AtBeginDocument

```

Disabled:

```

45 \def\showidx#1{%
46 \let\@texttop\relax
47 \renewcommand*\raggedbottom{}%
48 \renewcommand*\flushbottom{}%
49 \renewcommand*\markboth[2]{}%
50 \renewcommand*\markright[1]{}

```

File 206 **l warp-inputtrc.sty**

§ 306 Package **inputtrc**

(Emulates or patches code by UWE LÜCK.)

Pkg **inputtrc** **inputtrc** is patched for use by **l warp**.

for HTML output: 1 \LWR@ProvidesPackagePass{inputtrc}[2012/10/10]

Patched to remove extraneous spaces, which sometimes showed up in logos inside a `\textrimage`.

```

2 \renewcommand*\IT@prim@input[1]{%
3   \typeout{\IT@indent\IT@currfile INPUTTING #1}%
4 %% ... TODO: option to write to ‘.log’ only.
5   \xdef\IT@filestack{\IT@currfile}\IT@filestack}%
6   \xdef\IT@currfile{\#1}%
7   \expandafter\gdef\expandafter\expandafter\IT@indent\expandafter{%
8     \IT@indent \IT@indent@unit}%
9     \IT@input#1%
10    \expandafter\IT@pop@indent\IT@indent \IT@input#1%
11    \expandafter\IT@pop@file \IT@filestack\IT@input#1%
12    \IT@maybe@returnmessage% v0.2%
13 }

```

File 207 **l warp-intopdf.sty**

§ 307 Package **intopdf**

Pkg **intopdf** **intopdf** is emulated.

The filespec, MIME type, and description are ignored for now.

for HTML output: 1 \LWR@ProvidesPackageDrop{intopdf}[2019/05/28]

```
2 \NewDocumentCommand{\attachandlink}{o m o m m}{%
3   \href{#2}{#5}%
4 }
```

File 208 **l warp-karnaugh-map.sty**

§ 308 Package **karnaugh-map**

(Emulates or patches code by MATTIAS JACOBSSON.)

Pkg karnaugh-map karnaugh-map is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{karnaugh-map}[2017/02/20]

(It is hard to patch this macro, so the entire thing is redefined here, with the l warp modifications identified in comments.)

```
2 \RenewDocumentEnvironment{karnaugh-map}{s O{4} O{4} O{1} O{$X_1X_0$} O{$X_3X_2$} O{$X_5X_4$}} {%
3   \begingroup
4     % store map size {[START]
5     \renewcommand{\@karnaughmap@var@mapsizex@}{#2}%
6     \renewcommand{\@karnaughmap@var@mapsizey@}{#3}%
7     \renewcommand{\@karnaughmap@var@mapsizel@}{#4}%
8     % [END]}
9     % determinate if markings should be color or black and white
10    \IfBooleanTF{#1}{%
11      % should be black and white
12      \renewcommand{\@karnaughmap@var@bw@}{1}%
13    }{%
14      % should be color
15      \renewcommand{\@karnaughmap@var@bw@}{0}%
16    }%
17    %
18    % find matching matrix template and alignment parameters {[START]
19    \newcommand{\@karnaughmap@local@matrixtemplate@}{0}' is considered as missing matrix template
20    \newcommand{\@karnaughmap@local@maprealignmentx@}{0}%
21    \newcommand{\@karnaughmap@local@maprealignmenty@}{0}%
22    \ifnum\@karnaughmap@var@mapsizex@=\@karnaughmap@var@mapsizel@=\@karnaughmap@var@mapsizel@=221
23      \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
24        \&          0 \&          1 \& \phantom{0} \\
25        0 \& |(00000)| \phantom{0} \& |(00001)| \phantom{0} \&           \\
26        1 \& |(00010)| \phantom{0} \& |(00011)| \phantom{0} \&           \\
27        \phantom{0} \&           \&           \&           \\
28      }%
29    \fi
30    \ifnum\@karnaughmap@var@mapsizex@=\@karnaughmap@var@mapsizel@=\@karnaughmap@var@mapsizel@=241
31      \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
32        \&          0 \&          1 \& \phantom{00} \\
33        00 \& |(00000)| \phantom{0} \& |(00001)| \phantom{0} \&           \\
34        01 \& |(00010)| \phantom{0} \& |(00011)| \phantom{0} \&           \\}
```

```

35      11 \& |(000110)| \phantom{0} \& |(000111)| \phantom{0} \&           \\
36      10 \& |(000100)| \phantom{0} \& |(000101)| \phantom{0} \&           \\
37      \phantom{00} \&           \&           \&           \\
38      }%           \\
39      \fi
40      \ifnum\@karnaughmap@var@mapsizex@\@karnaughmap@var@mapsizey@\@karnaughmap@var@mapsizex@=421
41          \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
42              \&          00 \&          01 \&          11 \&          10 \& \phantom{0}
43              0 \& |(000000)| \phantom{0} \& |(000001)| \phantom{0} \& |(000011)| \phantom{0} \& |(000010)|
44              1 \& |(000100)| \phantom{0} \& |(000101)| \phantom{0} \& |(000111)| \phantom{0} \& |(000110)|
45              \phantom{00} \&           \&           \&           \&
46      }%           \\
47      \fi
48      \ifnum\@karnaughmap@var@mapsizex@\@karnaughmap@var@mapsizey@\@karnaughmap@var@mapsizex@=441
49          \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
50              \&          00 \&          01 \&          11 \&          10 \& \phantom{0}
51              00 \& |(000000)| \phantom{0} \& |(000001)| \phantom{0} \& |(000011)| \phantom{0} \& |(000010)|
52              01 \& |(000100)| \phantom{0} \& |(000101)| \phantom{0} \& |(000111)| \phantom{0} \& |(000110)|
53              11 \& |(001100)| \phantom{0} \& |(001101)| \phantom{0} \& |(001111)| \phantom{0} \& |(001110)|
54              10 \& |(001000)| \phantom{0} \& |(001001)| \phantom{0} \& |(001011)| \phantom{0} \& |(001010)|
55              \phantom{00} \&           \&           \&           \&
56      }%           \\
57      \fi
58      \ifnum\@karnaughmap@var@mapsizex@\@karnaughmap@var@mapsizey@\@karnaughmap@var@mapsizex@=442
59          \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
60              \&          00 \&          01 \&          11 \&          10 \& \phantom{0}
61              00 \& |(000000)| \phantom{0} \& |(000001)| \phantom{0} \& |(000011)| \phantom{0} \& |(000010)|
62              01 \& |(000100)| \phantom{0} \& |(000101)| \phantom{0} \& |(000111)| \phantom{0} \& |(000110)|
63              11 \& |(001100)| \phantom{0} \& |(001101)| \phantom{0} \& |(001111)| \phantom{0} \& |(001110)|
64              10 \& |(001000)| \phantom{0} \& |(001001)| \phantom{0} \& |(001011)| \phantom{0} \& |(001010)|
65              \phantom{00} \&           \&           \&           \&
66      }%           \\
67          \renewcommand{\@karnaughmap@local@maprealignmentx@}{2.5}%
68      \fi
69      \ifnum\@karnaughmap@var@mapsizex@\@karnaughmap@var@mapsizex@\@karnaughmap@var@mapsizex@=444
70          \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
71              \&          00 \&          01 \&          11 \&          10 \& \phantom{0}
72              00 \& |(000000)| \phantom{0} \& |(000001)| \phantom{0} \& |(000011)| \phantom{0} \& |(000010)|
73              01 \& |(000100)| \phantom{0} \& |(000101)| \phantom{0} \& |(000111)| \phantom{0} \& |(000110)|
74              11 \& |(001100)| \phantom{0} \& |(001101)| \phantom{0} \& |(001111)| \phantom{0} \& |(001110)|
75              10 \& |(001000)| \phantom{0} \& |(001001)| \phantom{0} \& |(001011)| \phantom{0} \& |(001010)|
76              \phantom{00} \&           \&           \&           \&
77              00 \& |(100000)| \phantom{0} \& |(100001)| \phantom{0} \& |(100011)| \phantom{0} \& |(100010)|
78              01 \& |(100100)| \phantom{0} \& |(100101)| \phantom{0} \& |(100111)| \phantom{0} \& |(100110)|
79              11 \& |(101100)| \phantom{0} \& |(101101)| \phantom{0} \& |(101111)| \phantom{0} \& |(101110)|
80              10 \& |(101000)| \phantom{0} \& |(101001)| \phantom{0} \& |(101011)| \phantom{0} \& |(101010)|
81              \phantom{00} \&           \&           \&           \&
82      }%           \\
83          \renewcommand{\@karnaughmap@local@maprealignmentx@}{2.5}%
84          \renewcommand{\@karnaughmap@local@maprealignmenty@}{-2.5}%
85      \fi
86      % [END]%
87      % test if a matrix template is found or not(aka "\@karnaughmap@local@matrixtemplate@" equals to '0')
88      \ifdefstring{\@karnaughmap@local@matrixtemplate@}{0}{% lwarp
89      % \ifnum0=\@karnaughmap@local@matrixtemplate@% original

```

```

90      % print error if no template could be found
91      \PackageError{lwarp-karnaugh-map}{%
92          Can not find a template fitting your specification (@karnaughmap@var@mapsizex@\space x @karnaughma
93          }{%
94          Existing templates have the following dimensions: 2x2x1, 2x4x1, 4x2x1, 4x4x1, 4x4x2, and 4x4x4.
95          }%
96 %      \fi    original
97  }{%
98  \begin{tikzpicture}
99      % grid
100     % for all dimensions
101     \draw[color=black, ultra thin] (0,0) grid (@karnaughmap@var@mapsizex@, @karnaughmap@var@mapsizey@);
102     % when there are 2 sub maps
103     \ifnum@karnaughmap@var@mapsizex@=2
104         \draw[color=black, ultra thin] (5,0) grid (9,4);
105     \fi
106     % when there are 4 sub maps
107     \ifnum@karnaughmap@var@mapsizex@=4
108         \draw[color=black, ultra thin] (5,0) grid (9,4);
109         \draw[color=black, ultra thin] (0,-5) grid (4,-1);
110         \draw[color=black, ultra thin] (5,-5) grid (9,-1);
111     \fi
112     % labels
113     % for all dimensions
114     \node[above] at (@karnaughmap@var@mapsizex@*0.5, @karnaughmap@var@mapsizey@+0.9) {\small{\#5}};
115     \node[left] at (-0.9, @karnaughmap@var@mapsizey@*0.5) {\small{\#6}};
116     % when there are 2 sub maps
117     \ifnum@karnaughmap@var@mapsizex@=2
118         \node[above] at (7,4.9) {\small{\#5}};
119         % extra sub maps labels
120         \node[below] at (2,-0.1) {\small{\#0$}};
121         \node[below] at (7,-0.1) {\small{\#1$}};
122     \fi
123     % when there are 4 sub maps
124     \ifnum@karnaughmap@var@mapsizex@=4
125         \node[above] at (7,4.9) {\small{\#5}};
126         \node[left] at (-0.9,-3) {\small{\#6}};
127         % extra sub maps labels
128         \node[below] at (2,-0.1) {\small{\#00$}};
129         \node[below] at (7,-0.1) {\small{\#01$}};
130         \node[below] at (2,-5.1) {\small{\#10$}};
131         \node[below] at (7,-5.1) {\small{\#11$}};
132     \fi
133     % data
134     \matrix[
135         matrix of nodes,
136         ampersand replacement=&,
137         column sep={1cm,between origins},
138         row sep={1cm,between origins},
139     ] at (@karnaughmap@var@mapsizex@*0.5+@karnaughmap@local@maprealignmentx@, @karnaughmap@var@mapsiz
140         @karnaughmap@local@matrixtemplate@%
141     };
142 }{
143     \end{tikzpicture}
144 \endgroup

```

```
145 }
```

File 209 l warp-keyfloat.sty**§ 309 Package keyfloat**

(Emulates or patches code by BRIAN DUNN.)

Pkg keyfloat keyfloat is supported with a considerable amount of hacking. (It's a mashup of l warp, keyfloat, and tocdata.)

⚠ keywrap If placing a \keyfig[H] inside a keywrap, use an absolute width for \keyfig, instead of \w-proportional widths. (The [H] option forces the use of a minipage, which internally adjusts for a virtual 6-inch wide minipage, which then corrupts the \w option.)

for HTML output:

```
1 \LWR@ProvidesPackagePass{keyfloat}[2019/09/23]
2
3 \@ifpackagelater{keyfloat}{2019/09/23}{}{
4     \PackageError{l warp-keyfloat}
5     {%
6         The keyfloat package is out of date.\MessageBreak
7         Update to keyfloat v2.01 2019/09/23 or later%
8     }
9     {%
10        Please update the keyfloat package. It's worth it!%
11    }
12 }
```

After keyfloat has loaded:

```
13 \AtBeginDocument{

14 \providecommand*\KFLT@LWR@hook@boxouter{}%
15 \renewcommand*\KFLT@LWR@hook@boxouter{%
16     \ifbool{KFLT@keywrap}{%
17         }{%
18             \ifnumequal{\value{KFLT@keyfloatdepth}}{0}{%
19                 \setlength{\ linewidth}{6in}%
20                 \setlength{\ textwidth}{6in}%
21                 \setlength{\ textheight}{9in}%
22             }{%
23         }%
24     \normalcolor%
25 }

26 \LetLtxMacro\KFLT@LWR@hook@keysubfloats\KFLT@LWR@hook@boxouter
27
28 \let\KFLT@LWR@hook@keyfloatsminipage\relax
29 \let\endKFLT@LWR@hook@keyfloatsminipage\relax
30 \newenvironment*{KFLT@LWR@hook@keyfloatsminipage}[1]{}{}
```

```

31 \LetLtxMacro{\KFLT@LWR@hook}{\keyfloats\KFLT@LWR@hook@boxouter}
32
33 \renewcommand*{\KFLT@maybeendfloatrow}{%
34     \ifnumless{\value{\KFLT@thiscol}}{\value{\KFLT@numcols}}{%
35         {}% thiscol < numcols
36         {}% >=
37         \defcounter{\KFLT@thiscol}{0}%
38     }%
39 }%
40
41 \renewcommand{\KFLT@trackrows}{%
42 }%

```

If are nested inside a keyfloats or a subfloat:

```

43     \ifboolexpr{%
44         test {\ifnumgreater{\value{\KFLT@keyfloatdepth}}{0}} or%
45         \bool{\KFLT@inkeys floats}%
46     }%
47     {}% nested

```

Tracks row start and end:

```
48     \KFLT@maybestartfloatrow%
```

Possibly fill space between columns:

```

49     \ifnumgreater{\value{\KFLT@thiscol}}{1}{%
50         {}%
51         \hfill%
52     }%
53     {}% nested
54 }% not nested
55 }%
56 }

57 \RenewDocumentCommand{\KFLT@onefigureimage}{m}{%
58 }%
59 \LWR@traceinfo{\KFLT@onefigureimage}%
60 % \begin{lrbox}{\KFLT@envbox}%
61 \ifthenelse{\NOT\equal{\KFLT@lw}{}}{%
62     {}%
63     \KFLT@frame{\includegraphics{%
64         [scale=\KFLT@s, width=\KFLT@imagewidth]{#1}}%
65     }%
66     {}% not linewidth
67     \ifthenelse{\dimtest{\KFLT@w}{>}0pt}{%
68         {}% width is given
69         \ifthenelse{\dimtest{\KFLT@h}{>}0pt}{%
70             {}% w and h
71             \KFLT@frame{\includegraphics{%
72                 [scale=\KFLT@s,%
73                 width=\KFLT@imagewidth, height=\KFLT@h]{#1}}%
74         }% w and h

```

```
75      {%
76          \KFLT@frame{\includegraphics{%
77              [scale=\KFLT@s, width=\KFLT@imagewidth]{#1}}}%
78      }%
79      {%
80          \ifthenelse{\dimtest{\KFLT@h}>0pt}{%
81              {%
82                  \KFLT@frame{\includegraphics{%
83                      [scale=\KFLT@s, height=\KFLT@h]{#1}}}%
84              }%
85          }%
86          {%
87              \KFLT@frame{\includegraphics{%
88                  [scale=\KFLT@s]{#1}}}%
89          }%
90      }%
91      {%
92  \end{lrbox}%
93  \unskip%
94  \KFLT@findenvboxwidth%
95  \begin{turn}{\KFLT@r}%
96  \KFLT@frame{\usebox{\KFLT@envbox}}%
97  \unskip%
98  \end{turn}%
99 \LWR@traceinfo{KFLT@onefigureimage: done}%
100 }%

101 \RenewDocumentEnvironment{KFLT@boxinner}{}%
102 {%
103     \LWR@traceinfo{KFLT@boxinner}%
104     \LWR@stoppars%
105     \minipagewidth%
106     \ifboolexpr{bool{KFLT@ft} or bool{KFLT@f}}{%
107         \fminipage{\KFLT@imagewidth}%
108     }{%
109         \minipage{\KFLT@imagewidth}%
110     }%
111 }%
112 {%
113     \ifboolexpr{bool{KFLT@ft} or bool{KFLT@f}}{%
114         \endfminipage%
115     }{%
116         \endminipage%
117     }%
118     \LWR@startpars%
119     \LWR@traceinfo{KFLT@boxinner: done}%
120 }%

121 \newcommand*{\LWR@KFLT@settextalign}[1]{%
122     \def\LWR@KFLT@textalign{justify}%
123     \ifcsstring{KFLT@#1textalign}{centering}{%
124         \def\LWR@KFLT@textalign{center}%
125     }{%
126     \ifcsstring{KFLT@#1textalign}{raggedleft}{%
127         \def\LWR@KFLT@textalign{right}%
128     }{%
129     }%
130 }%
```

```

128      {}%
129      \ifcsstring{KFLT@#1textalign}{\raggedright}%
130          {\def\LWR@KFLT@textalign{left}}%
131      {}%
132 }
133
134 \renewcommand{\KFLT@addtext}[1]%
135 {%

```

Is there text to add?

```

136      \ifcseempty{KFLT@#1t}%
137          {}% no text
138          {}% text to add
139              {}% local

```

Add some space, then create a <div> to contain the text:

```

140      \addvspace{\smallskipamount}%
141      \LWR@KFLT@settextalign{#1}%
142      \begin{BlockClass}[text-align:\LWR@KFLT@textalign]{floatnotes}%

```

Set the alignment and some text parameters:

```

143 %      \csuse{KFLT@#1textalign}%
144 %      \footnotesize%
145      \setlength{\parskip}{1.5ex}%
146      \setlength{\parindent}{0em}%

```

Typeset the actual text:

```
147      \csuse{KFLT@#1t}%
```

Close it all out with a little more space:

```

148      \end{BlockClass}%
149 %      \par\addvspace{2ex}%
150 %      {}% local
151      {}% text to add
152 }
153
154 \@ifpackageloaded{tocdata}%
155 {}
156 {}% tocdata not loaded
157
158      \newcommand*\LWR@KFLT@setnamealign[1]{%
159          \def\LWR@KFLT@textalign{justify}%
160          \ifstrequal{#1}{\centering}%
161              {\def\LWR@KFLT@textalign{center}}%
162          {}%
163          \ifstrequal{#1}{\raggedleft}%
164              {\def\LWR@KFLT@textalign{right}}%
165          {}%
166          \ifstrequal{#1}{\raggedright}%

```

```

167           {\def\LWR@KFLT@textalign{left}}%
168           { }%
169       }
170
171   \renewcommand*{\KFLT@addartisttext}[3]{%
172

```

Add space and create the name inside a <div>:

```

173 %           \addvspace{\medskipamount}%
174   %           \begin{minipage}{\linewidth}%
175   %             \LWR@KFLT@setnamealign{#3}%
176   %             \begin{BlockClass}[text-align:\LWR@KFLT@textalign]{floatnotes}%
177

```

Text alignment is #3, and depends on artist or author:

```

178   %     #3%
179

```

#1 is empty or 'subgrp'
#2 is empty for artist, 'u' for author:

```

180       \footnotesize\textsc{%
181           \KFLT@optionalname{\csuse{KFLT@#1a#2p}}%
182           \KFLT@optionalname{\csuse{KFLT@#1a#2f}}%
183           \csuse{KFLT@#1a#2l}%
184           \csuse{KFLT@#1a#2s}%
185       }%
186   %           \end{minipage}%
187   %           \end{BlockClass}%
188 %           \par\addvspace{2ex}%
189   }
190
191 }% tocdata not loaded

```

```

Env KFLT@marginfloat  [<offset>] {<type>}
192 \DeclareDocumentEnvironment{KFLT@marginfloat}{O{-1.2ex} m}%
193 {%
194   \uselengthunit{PT}%
195   \LWR@BlockClassWP%
196   {float:right; width:2in; margin:10pt}%
197   {}%
198   {marginblock}%
199   \captionsetup{type=#2}%
200   \minipage{\LWR@usersmarginparwidth}%
201   \setlength{\marginparwidth}{.95\LWR@usersmarginparwidth}%
202 }
203 {%
204   \endminipage%
205   \endLWR@BlockClassWP%
206 }

```

```

207 \DeclareDocumentEnvironment{marginfigure}{o}
208   {\begin{KFLT@marginfloat}{figure}}
209   {\end{KFLT@marginfloat}}
210
211 \DeclareDocumentEnvironment{marginable}{o}
212   {\begin{KFLT@marginfloat}{table}}
213   {\end{KFLT@marginfloat}}
214
Env keywrap  {<width>} {<keyfloat>}
214 \DeclareDocumentEnvironment{keywrap}{m +m}
215 {%
216   \begin{LWR@setvirtualpage}*
217   \setlength{\LWR@templengthone}{#1}%
218   \begin{LWR@BlockClassWP}%
219     {%
220       float:right; width:\LWR@printlength{\LWR@templengthone}; % extra space
221       margin:10pt%
222     }%
223     {%
224       \marginblock%
225       \setlength{\linewidth}{.95\LWR@templengthone}%
226       \booltrue{KFLT@keywrap}%
227     #2%
228     \end{LWR@BlockClassWP}%
229     \end{LWR@setvirtualpage}%
230   }
231 {}%
232 }% AtBeginDocument

```

File 210 **lwarf-layaureo.sty**

§ 310 Package **layaureo**

Pkg layaureo layaureo is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{layaureo}[2004/09/16]

File 211 **lwarf-layout.sty**

§ 311 Package **layout**

Pkg layout layout is ignored.

for HTML output: Discard all options for lwarf-layout:

1 \LWR@ProvidesPackageDrop{layout}[2014/10/28]

```
2 \NewDocumentCommand{\layout}{s}{}{}
```

File 212 **l warp-layouts.sty**

§ 312 Package **layouts**

Pkg layouts layouts is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop[layouts][2009/09/02]

```
2 \newif\ifoddpage layout
3   \oddpagelayouttrue
4 \newif\iftwocolumnlayout
5   \twocolumnlayoutfalse
6 \newif\ifdrawmarginpars
7   \drawmarginparstrue
8 \newif\ifdrawparameters
9   \drawparameterstrue
10 \newif\iflistaspara
11   \listasparatrue
12 \newif\ifruninhead
13   \runinheadfalse
14 \newif\ifprintparameters
15   \printparameterstrue
16 \newif\ifdrawdimensions
17   \drawdimensionsfalse
18 \newif\ifprintheadings
19   \printheadingstrue
20 \newcommand{\testdrawdimensions}(){}
21 \newcommand{\testprintparameters}){}
22 \newcommand{\setlabelfont}[1]({})
23 \newcommand{\setparametertextfont}[1]({})
24 \newcommand{\setvaluesize}[1]({})
25 \newcommand{\setLayoutscale}[1]({})
26 \newcommand{\setuplayouts}(){}
27 \newcommand{\printinunitsof}[1]({})
28 \newcommand{\prntlen}[1]({})
29 \newcommand{\trypaperwidth}[1]({})
30 \newcommand{\trypaperheight}[1]({})
31 \newcommand{\tryhoffset}[1]({})
32 \newcommand{\tryvoffset}[1]({})
33 \newcommand{\trytopmargin}[1]({})
34 \newcommand{\tryheadheight}[1]({})
35 \newcommand{\tryheadsep}[1]({})
36 \newcommand{\trytextheight}[1]({})
37 \newcommand{\tryfootskip}[1]({})
38 \newcommand{\tryoddsidemargin}[1]({})
39 \newcommand{\tryevensidemargin}[1]({})
40 \newcommand{\trytextwidth}[1]({})
41 \newcommand{\trymarginparsep}[1]({})
42 \newcommand{\trymarginparwidth}[1]({})
43 \newcommand{\trymarginparpush}[1]({})
```

```
44 \newcommand{\trycolumnsep}[1]{}
45 \newcommand{\trycolumnseprule}[1]{}
46 \newcommand{\setfootbox}[2]{}
47 \newcommand{\currentpage}{}
48 \newcommand{\drawpage}{(draw page)}
49 \newcommand{\pagediagram}{(page diagram)}
50 \newcommand{\pagedesign}{(page design)}
51 \newcommand{\pagevalues}{(page values)}
52 \newcommand{\trystockwidth}[1]{}
53 \newcommand{\trystockheight}[1]{}
54 \newcommand{\trytrimedge}[1]{}
55 \newcommand{\trytrimtop}[1]{}
56 \newcommand{\tryuppermargin}[1]{}
57 \newcommand{\tryspinemargin}[1]{}
58 \newcommand{\currentstock}{}
59 \newcommand{\drawstock}{(draw stock)}
60 \newcommand{\stockdiagram}{(stock diagram)}
61 \newcommand{\stockdesign}{(stock design)}
62 \newcommand{\stockvalues}{(stock values)}
63 \newcommand{\tryitemindent}[1]{}
64 \newcommand{\trylabelwidth}[1]{}
65 \newcommand{\trylabelsep}[1]{}
66 \newcommand{\tryleftmargin}[1]{}
67 \newcommand{\tryrightmargin}[1]{}
68 \newcommand{\trylistparindent}[1]{}
69 \newcommand{\trytopsep}[1]{}
70 \newcommand{\tryparskip}[1]{}
71 \newcommand{\trypartopsep}[1]{}
72 \newcommand{\tryparsep}[1]{}
73 \newcommand{\tryitemsep}[1]{}
74 \newcommand{\currentlist}{}
75 \newcommand{\drawlist}{(draw list)}
76 \newcommand{\listdiagram}{(list diagram)}
77 \newcommand{\listdesign}{(list design)}
78 \newcommand{\listvalues}{(list values)}
79 \newcommand{\tryfootins}[1]{}
80 \newcommand{\tryfootnotesep}[1]{}
81 \newcommand{\tryfootnotebaseline}[1]{}
82 \newcommand{\tryfootruleheight}[1]{}
83 \newcommand{\tryfootrulefrac}[1]{}
84 \newcommand{\currentfootnote}{}
85 \newcommand{\drawfootnote}{(draw footnote)}
86 \newcommand{\footnotediagram}{(footnote diagram)}
87 \newcommand{\footnotedesign}{(footnote design)}
88 \newcommand{\footnotevalues}{(footnote values)}
89 \newcommand{\tryparindent}[1]{}
90 \newcommand{\tryparlinewidth}[1]{}
91 \newcommand{\tryparbaselineskip}[1]{}
92 \newcommand{\currentparagraph}{}
93 \newcommand{\drawparagraph}{(draw paragraph)}
94 \newcommand{\paragraphdiagram}{(paragraph diagram)}
95 \newcommand{\paragraphdesign}{(paragraph design)}
96 \newcommand{\paragraphvalues}{(paragraph values)}
97 \newcommand{\trybeforeskip}[1]{}
98 \newcommand{\tryafterskip}[1]{}
```

```

99 \newcommand{\tryindent}[1]{}
100 \newcommand{\currentheading}{}
101 \newcommand{\drawheading}[1]{(draw heading)}
102 \newcommand{\headingdiagram}[1]{(heading diagram)}
103 \newcommand{\headingdesign}[1]{(heading design)}
104 \newcommand{\headingvalues}{(heading values)}
105 \newcommand{\trytextfloatsep}[1]{}
106 \newcommand{\tryfloatsep}[1]{}
107 \newcommand{\tryintextsep}[1]{}
108 \newcommand{\trytopfigrule}[1]{}
109 \newcommand{\trybotfigrule}[1]{}
110 \newcommand{\currentfloat}{}
111 \newcommand{\drawfloat}{(draw float)}
112 \newcommand{\floatdiagram}{(float diagram)}
113 \newcommand{\floatdesign}{(float design)}
114 \newcommand{\floatvalues}{(float values)}
115 \newcommand{\trytotalnumber}[1]{}
116 \newcommand{\trytopnumber}[1]{}
117 \newcommand{\trybottomnumber}[1]{}
118 \newcommand{\trytopfraction}[1]{}
119 \newcommand{\trytextfraction}[1]{}
120 \newcommand{\trybottomfraction}[1]{}
121 \newcommand{\currentfloatpage}{}
122 \newcommand{\drawfloatpage}{(draw floatpage)}
123 \newcommand{\floatpagediagram}{(floatpage diagram)}
124 \newcommand{\floatpagedesign}{(floatpage design)}
125 \newcommand{\floatpagevalues}{(floatpage values)}
126 \newcommand{\trytocindent}[1]{}
127 \newcommand{\trytocnumwidth}[1]{}
128 \newcommand{\trytoclinewidth}[1]{}
129 \newcommand{\trytocrmarg}[1]{}
130 \newcommand{\trytocpnumwidth}[1]{}
131 \newcommand{\trytocdotsep}[1]{}
132 \newcommand{\currenttoc}{}
133 \newcommand{\drawtoc}{(draw toc)}
134 \newcommand{\tocdiagram}{(toc diagram)}
135 \newcommand{\tocdesign}{(toc design)}
136 \newcommand{\tocvalues}{(toc values)}
137 \newcommand{\drawaspread}[8][0]{(a spread)}
138 \newcommand{\drawfontframe}[1]{(font frame)}
139 \newcommand{\drawfontframelabel}[1]{}

```

File 213 **lwarf-leading.sty**

§ 313 Package **leading**

Pkg **leading** **leading** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{leading}[2008/12/11]

2 \newcommand{\leading}[1]{}

File 214 l warp-leftidx.sty

§ 314 Package **leftidx**

(Emulates or patches code by HARALD HARDERS.)

Pkg **leftidx** **leftidx** works as-is with SVG math, and is emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{leftidx}[2003/09/24]

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\leftidx}[3]{\vphantom{#2}\smash{\overset{#1}{#2}}{#3}}}
4 \CustomizeMathJax{\newcommand{\ltrans}[1]{\leftidx{^{\mathrm{t}}}{#1}{}}}}
5 \end{warpMathJax}
```

File 215 l warp-letterspace.sty

§ 315 Package **letterspace**

(Emulates or patches code by R SCHLICHT.)

Pkg **letterspace** **letterspace** is a subset of microtype, which is pre-loaded by **l warp**. All user options and macros are ignored and disabled.

for HTML output: Discard all options for **l warp-letterspace**:

```
1 \LWR@ProvidesPackageDrop{letterspace}[2018/01/14]
2 \newcommand*\lsstyle{}
3 \newcommand\textrls[2][]{}
4 \def\textrls#1{}
5 \newcommand*\lslig[1]{#1}
```

File 216 l warp-lettrine.sty

§ 316 Package **lettrine**

(Emulates or patches code by DANIEL FLIPO.)

Pkg **lettrine** **lettrine** is emulated.

for HTML output: Discard all options for **l warp-lettrine**:

```
1 \LWR@ProvidesPackageDrop{lettrine}[2018-08-28]
```

The initial letter is in a of class `lettrine`, and the following text is in a of class `lettrinetext`. `\lettrine[<keys>]{<letter>}{<additional text>}`

```

2 \DeclareDocumentCommand{\lettrine}{o m m}{%
3 \InlineClass{lettrine}{#2}\InlineClass{lettrinetext}{#3} % extra space
4 }
5
6 \newcounter{DefaultLines}
7 \setcounter{DefaultLines}{2}
8 \newcounter{DefaultDepth}
9 \newcommand*{\DefaultOptionsFile}{\relax}
10 \newcommand*{\DefaultLoversize}{0}
11 \newcommand*{\DefaultLraise}{0}
12 \newcommand*{\DefaultLhang}{0}
13 \newdimen\DefaultFindent
14 \setlength{\DefaultFindent}{\z@}
15 \newdimen\DefaultNindent
16 \setlength{\DefaultNindent}{0.5em}
17 \newdimen\DefaultSlope
18 \setlength{\DefaultSlope}{\z@}
19 \newdimen\DiscardVskip
20 \setlength{\DiscardVskip}{0.2\p@}
21 \newif\ifLettrineImage
22 \newif\ifLettrineOnGrid
23 \newif\ifLettrineRealHeight
24
25 \newcommand*{\LettrineTextFont}{\scshape}
26 \newcommand*{\LettrineFontHook}{}
27 \newcommand*{\LettrineFont}[1]{\InlineClass{lettrine}{#1}}
28 \newcommand*{\LettrineFontEPS}[1]{\includegraphics[height=1.5ex]{#1}}
```

File 217 l warp-lineno.sty

§ 317 Package **lineno**

(Emulates or patches code by STEPHAN I. BÖTTCHER.)

Pkg **lineno** **lineno** is partly emulated, but mostly ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{lineno}[2005/11/02]

```

2 \newcommand*\resetlinenumber[1][\@ne]{}
3
4 \def\linenumbers{%
5   \@ifnextchar[\{\resetlinenumber\}%
6     {\@ifstar{\resetlinenumber}{}}\}%
7 }
8
9 \newcommand*{\nolinenumbers}{}
10
11 \namedef{linenumbers*}{\par\linenumbers*}
12 \namedef{runninglinenumbers*}{\par\runninglinenumbers*}
13
```

```
14 \def\endlinenumbers{\par}
15 \let\endrunninglinenumbers\endlinenumbers
16 \let\endpagewiselinenumbers\endlinenumbers
17 \expandafter\let\csname endlinenumbers*\endcsname\endlinenumbers
18 \expandafter\let\csname endrunninglinenumbers*\endcsname\endlinenumbers
19 \let\endnolinenumbers\endlinenumbers
20
21 \def\pagewiselinenumbers{\linenumbers\setpagewiselinenumbers}
22
23 \def\runninglinenumbers{\setrunninglinenumbers\linenumbers}
24
25 \def\setpagewiselinenumbers{}
26
27 \def\setrunninglinenumbers{}
28
29 \def\linenomath{}%
30 \namedef{linenomath*}{}%
31 \def\endlinenomath{}
32 \expandafter\let\csname endlinenomath*\endcsname\endlinenomath
33
34 \let\linelabel\label
35
36 \def\switchlinenumbers{@ifstar{}{}}
37 \def\setmakelinenumbers#1{@ifstar{}{}}
38
39 \def\leftlinenumbers{@ifstar{}{}}
40 \def\rightlinenumbers{@ifstar{}{}}
41
42 \newcounter{linenumber}
43 \newcount\c@pagewiselinumber
44 \let\c@runninglinenumber\c@linenumber
45
46 \def\runningpagewiselinenumbers{}
47 \def\realpagewiselinenumbers{}
48
49
50 \NewDocumentCommand\modulolinenumbers{s o}{}
51
52 \chardef\c@linenumbermodulo=5
53 \modulolinenumbers[1]
54
55 \newcommand*\firstlinenumber[1]{}
56
57 \newcommand\internallinenumbers{}
58 \let\endinternallinenumbers\endlinenumbers
59 \namedef{internallinenumbers*}{\internallinenumbers*}
60 \expandafter\let\csname endinternallinenumbers*\endcsname\endlinenumbers
61
62 \newcommand*{\linenoplacement}[1]{% redefine per language
63   (line number reference for \detokenize\expandafter{\#1})
64 }
65
66 \newcommand*{\lineref}[2][]{\linenoplacement{\#2}}
67 \newcommand*{\linerefpl}[2][]{\linenoplacement{\#2}}
68 \newcommand*{\linerefpr}[2][]{\linenoplacement{\#2}}
```

```
69
70 \newcommand\quotelinenumbers
71   {\@ifstar\linenumbers{\@ifnextchar[\linenumbers{\linenumbers*}}}
72
73 \newdimen\linenumbersep
74 \newdimen\linenumberwidth
75 \newdimen\quotelinumbersep
76
77 \quotelinumbersep=\linenumbersep
78 \let\quotelinumberfont\linenumberfont
79
80 \def\linenumberfont{\normalfont\tiny\sffamily}
81
82
83 \linenumberwidth=10pt
84 \linenumbersep=10pt
85
86 \def\thelinenumber{}
87
88 \def\LineNumber{}
89 \def\makeLineNumber{}
90 \def\makeLineNumberLeft{}
91 \def\makeLineNumberRight{}
92 \def\makeLineNumberOdd{}
93 \def\makeLineNumberEven{}
94 \def\makeLineNumberRunning{}
95
96
97 \newenvironment{numquote}    {\quote}{\endquote}
98 \newenvironment{numquotation} {\quotation}{\endquotation}
99 \newenvironment{numquote*}   {\quote}{\endquote}
100 \newenvironment{numquotation*}{\quotation}{\endquotation}
101
102 \newdimen\bframerule
103 \bframerule=\fboxrule
104
105 \newdimen\bframesep
106 \bframesep=\fboxsep
107
108 \newenvironment{bframe}
109 {%
110   \LWR@forceminwidth{\bframerule}%
111   \BlockClass[%
112     border:\LWR@printlength{\LWR@atleastonept} solid black ; %
113     padding:\LWR@printlength{\bframesep}%
114   ]{bframe}
115 }
116 {\endBlockClass}
```

File 218 l warp-lips.sty

§ 318 Package **lips**

(Emulates or patches code by MATT SWIFT.)

Pkg lips lips is emulated.

```
1 \% \LWR@ProvidesPackageDrop{lips}
2 \PackageInfo{l warp}{Using the l warp version of package 'lips'.}%
3 \ProvidesPackage{l warp-lips}[2001/08/31]
4
5 \NewDocumentCommand{\Lips}{}{\textellipsis}
6
7 \NewDocumentCommand{\BracketedLips}{}{[\textellipsis]}
8
9 \let\lips\Lips
10 \let\olips\lips
11
12 \DeclareOption*{}
13 \DeclareOption{mla}{%
14 \let\lips\BracketedLips
15 }
16 \ProcessOptions\relax
17
18 \newcommand \LPNobreakList {}
```

File 219 l warp-listings.sty

§ 319 Package **listings**

(Emulates or patches code by CARSTEN HEINZ, BROOKS MOSES, JOBST HOFFMANN.)

Pkg listings listings is supported with some limitations. Text formatting is not yet supported.

for HTML output:

```
1 \begin{warpHTML}

2 \LWR@ProvidesPackagePass{listings}[2018/09/02]
```

Force flexible columns. Fixed columns inserts spaces in the PDF output.

```
3 \lst@column@flexible
```

Patches to embed listings inside pre tags:

```
4 \let\LWR@origlst@Init\lst@Init
5 \let\LWR@origlst@DeInit\lst@DeInit
```

```

6
7 \let\LWR@origlstkEveryPar\lstk@EveryPar
8
9 \renewcommand{\l@lstlisting}[2]{\hypertocfloat{1}{lstlisting}{lol}{#1}{#2}}
```

\lstset {*options*}

Use the `listings` literate option to replace HTML entities:

```

10 \def\lstset#1{\endgroup%
11 %  \ifx\@empty#1%
12 %    \@\empty%
13 %  \else%
14    \setkeys{lst}{%
15      #1%
16      ,literate=%
17      {<}{\HTMLentity{lt}}{4}%
18      {>}{\HTMLentity{gt}}{4}%
19      {&}{\HTMLentity{amp}}{5}%
20    }%
21 %  \fi%
22 }
```

\lst@Init {*backslash-processing*} Done at the start of a listing.

```
23 \renewcommand{\lst@Init}[1]{%
```

Perform the `listings` initialization:

```

24 \LWR@traceinfo{lst@Init}%
25 \renewcommand*{\@capttype}{lstlisting}%
26 \let\lst@aboveskip\z@\let\lst@belowskip\z@%
27 \gdef\lst@boxpos{t}%
28 \let\lst@frame\@empty
29   \let\lst@frametshape\@empty
30   \let\lst@framershape\@empty
31   \let\lst@framebshape\@empty
32   \let\lst@framelshape\@empty
33 \lstframe@\lst@frameround ffff\relax%
34 \lst@multicols\@empty%
35 \LWR@origlst@Init{#1}\relax%
```

Avoids extra horizontal space:

```

36 \def\lst@framelr{}%
37 \LWR@traceinfo{finished origlst@Init}%
38 \lst@ifdisplaystyle%
```

Creating a display.

Disable line numbers, produce the `<pre>`, then reenable line numbers.

```

39 \LWR@traceinfo{About to create verbatim.}%
40 \let\lstk@EveryPar\relax%
41 \LWR@forcenewpage
42 \LWR@atbeginverbatim{2}{programlisting}%
43
```

```
44 \let\lst@EveryPar\LWR@origlst@EveryPar%
45 \else%
```

Inline, so open a :

```
46 \ifbool{\LWR@verbtags}{\LWR@htmltag{span class="inlineprogramlisting"}{}}%
47 \fi%
48 }%
49
```

\lst@DeInit Done at the end of a listing.

```
50 \renewcommand*\lst@DeInit{%
51 \lst@ifdisplaystyle%
```

Creating a display.

Disable line numbers, produce the </pre>, then reenable line numbers:

```
52 \let\lst@EveryPar\relax%
53 \LWR@afterendverbatim{0}%
54 \let\lst@EveryPar\LWR@origlst@EveryPar%
55 \else%
```

Inline, so create the closing :

```
56 \ifbool{\LWR@verbtags}{\noindent\LWR@htmltag{/span}}{}%
57 \fi%
```

Final listings deinit:

```
58 \LWR@origlst@DeInit%
59 }
```

\lst@MakeCaption {*t/b*}

This is called BOTH at the top and at the bottom of each listing.

Patched for lwarp.

```
60 \def\lst@MakeCaption#1{%
61 \LWR@traceinfo{MAKING CAPTION at #1}%
62 \lst@ifdisplaystyle
63 \LWR@traceinfo{making a listings display caption}%
64 \ifx #1t%
65 \ifx\lst@caption\empty\expandafter\lst@HRefStepCounter \else
66 \expandafter\refstepcounter
67 \fi {\lstlisting}%
68 \LWR@traceinfo{About to assign label: !\lst@label!}%
69 % \ifx\lst@label\empty\else
70 % \label{\lst@label}\fi
71 \LWR@traceinfo{Finished assigning the label.}%
72 \let\lst@arg\lst@intname \lst@ReplaceIn\lst@arg\lst@filenamerpl
73 \global\let\lst@name\lst@arg \global\let\lst@name\lst@name
74 \lst@ifnolol\else
75 \ifx\lst@caption\empty
76 \ifx\lst@caption\empty
77 \ifx\lst@intname\empty \else \def\lst@temp{ }%
78 \ifx\lst@intname\lst@temp \else
```

This code places a contents entry for a non-float. This would have to be modified for `lwarp`:

```
79 \LWR@traceinfo{addcontents lst@name: -\lst@name-}%
80 %                                \addcontentsline{lol}{lstlisting}{\lst@name}
81         \fi\fi
82         \fi
83     \else
```

This would have to be modified for `lwarp`:

```
84 \LWR@traceinfo{addcontents lst@caption: -\lst@caption-}%
85 %                                \addcontentsline{lol}{lstlisting}%
86 {\protect\numberline{\thelstlisting}%
87 {\protect\ignorespaces \LWR@isolate{\lst@caption} \protect\relax}%
88         \fi
89         \fi
90         \fi
91     \ifx\lst@caption\empty\else
92 \LWR@traceinfo{lst@caption not empty-}%
93     \lst@ifSubstring #1\lst@captionpos
94     {\begingroup
95 \LWR@traceinfo{at the selected position}%
```

These space and box commands are not needed for HTML output:

```
96 %          \let\@vskip\vskip
97 %          \def\vskip{\afterassignment\lst@vskip \tempskipa}%
98 %          \def\lst@vskip{\nobreak\@vskip\tempskipa\nobreak}%
99 %          \par\@parboxrestore\normalsize\normalfont \% \noindent (AS)
100 %          \ifx #1\allowbreak \fi
101          \ifx\lst@title\empty
```

New `lwarp` code to create a caption:

```
102          \LWR@stopars%
103          \lst@makecaption\fnum@lstlisting{\ignorespaces \lst@caption}%
104      \else
```

New `lwarp` code to create a title:

```
105 %          \lst@maketitle\lst@title \% (AS)
106 \LWR@traceinfo{Making title: \lst@title}%
107 \begin{BlockClass}{lstlistingtitle}\% lwarp
108 \lst@maketitle\lst@title\% lwarp
109 \end{BlockClass}\% lwarp
110         \fi
111 \LWR@traceinfo{About to assign label: !\lst@label!}%
112     \ifx\lst@label\empty\else
113 \leavevmode% gets rid of bad space factor error
114 \GetTitleStringExpand{\lst@caption}%
115 \edef\LWR@lntemp{\GetTitleStringResult}%
116 \edef@\currentlabelname{\detokenize\expandafter{\LWR@lntemp}}%
117 \label{\lst@label}\fi
118 \LWR@traceinfo{Finished assigning the label.}%
```

Not needed for `lwarp`:

```
119 %          \ifx #1b\allowbreak \fi
120          \endgroup\}{}\%
```

```

121     \fi
122 \LWR@traceinfo{end of making a listings display caption}%
123 \else
124 \LWR@traceinfo{INLINE}%
125 \fi
126 \LWR@traceinfo{DONE WITH CAPTION at #1}%
127 }

```

line numbers Patched to keep left line numbers outside of the left margin, and place right line numbers in a field \VerbatimHTMLWidth wide.

```

128 \lst@Key{numbers}{none}{%
129     \let\lst@PlaceNumber\empty
130     \lstKV@SwitchCases{#1}%
131     {none:\%
132      left:\def\lst@PlaceNumber{%

```

For now, **lwarp** places left line numbers inline. Ideally the entire line would be moved to the right, but conflicts with list indenting occurs.

```

133 %          \LWR@origllap{%
134             \LWR@orignormalfont%
135             \lst@numberstyle{\thelstnumber}\kern\lst@numbersep%
136 %         }
137 }\\%
138     right:\def\lst@PlaceNumber{\LWR@origllap{\LWR@orignormalfont
139             \kern 6in \kern\lst@numbersep
140             \lst@numberstyle{\thelstnumber}}}%
141 }{\PackageError{lwarp-listings}{Numbers #1 unknown}@ehc}}
142 \end{warpHTML}

```

File 220 **lwarp-listliketab.sty**

§ 320 Package **listliketab**

Pkg **listliketab** **listliketab** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{listliketab}[2005/01/09]

```

2 \newcommand*\storestyleof}[1]{}%
3 \newcommand*\storeliststyle}{}%
4 \newenvironment{listliketab}{}{%

```

File 221 **lwarp-lltjext.sty**

§ 321 Package **lltjext**

(Emulates or patches code by THE LUATEX-JA PROJECT TEAM.)

Pkg lltjext lltjext is patched for use by l warp.

for HTML output 1 \LWR@ProvidesPackagePass{lltjext}[2018/10/07]

```

2 \protected\def\yoko{%
3   \directlua{luatexja.direction.set_list_direction(4, 'yoko')}%
4 }
5 \protected\def\tate{\yoko}
6 \protected\def\dtou{\yoko}
7 \protected\def\utod{\yoko}
8
9 \define@key[ltj]{japaram}{direction}{}%
10
11 \yoko
12
13 \DeclareExpandableDocumentCommand{\rensushi}{s o m}{#3}%
14
15 \DeclareDocumentCommand{\layoutfloat}{d() o m}{}%
16
17 \DeclareDocumentCommand{\DeclareLayoutCaption}{m d> d() o}{}%
18
19 \LetLtxMacro\pcaption\caption
20
21 \DeclareDocumentCommand{\layoutcaption}{d> d() o}{}%
22
23 \let\captiondir\relax
24 \RenewDocumentEnvironment{\LWR@HTML@minipage}{d> O{t} O{} O{t} m}%
25   {\LWR@HTML@sub@minipage{#2}{#3}{#4}{#5}}%
26   {\endLWR@HTML@sub@minipage}%
27
28 \RenewDocumentCommand{\LWR@HTML@parbox}{d> O{t} O{} O{t} m +m}%
29 {
30 \LWR@traceinfo{parbox of width #4}%
31 \begin{minipage}[#2][#3][#4]{#5}%
32 #6
33 \end{minipage}%
34 }
35
36 \RenewDocumentCommand{\pbox}{d> O{0pt} O{c} m}{%
37 \global\booltrue{\LWR@minipagefullwidth}%
38 \parbox{#2}{#4}}%
39 }
```

File 222 l warp-longtable.sty

§ 322 Package **longtable**

(Emulates or patches code by DAVID CARLISLE.)

Pkg longtable longtable is emulated.

for HTML output 1 \LWR@ProvidesPackageDrop{longtable}[2014/10/28]

Use one of either `\endhead` or `\endfirsthead` for both print and HTML, and use a `\warpprintonly` macro to disable the other head phrase, and also the `\endfoot` and `\endfirstfoot` phrases. (See section 8.10.4 if using `threeparttablex`.)

```
\begin{longtable}{ [column specifiers] }
[ . . . ] \endfirsthead    % or \endhead, for print and HTML
\warpprintonly{           % not used in HTML
[ . . . ] \endhead      % or \endfirsthead
[ . . . ] \endfoot
[ <lastfoot macros> ] \endlastfoot
}
... table contents ...
\warpHTMLonly{
[ <lastfoot macros> ]   % HTML last footer, without \endfoot
% or \endlastfoot.
}
\end{longtable}
```

⚠ **Misplaced `\noalign`** Use the `\warpprintonly` macro instead of the `warpprint` environment. Doing so helps avoid “Misplaced `\noalign`.” when using `\begin{warpprint}`.

⚠ **`\kill`** `\kill` is ignored, place a `\kill` line inside

```
\begin{warpprint} . . . \end{warpprint}
```

or place it inside `\warpprintonly`.

⚠ **`lateximage` `longtable`** `longtable` is not supported inside a `lateximage`.

See:

<http://tex.stackexchange.com/questions/43006/why-is-input-not-expandable>

Used to detect more than one of `\endhead` and `\endfirsthead` in use for HTML at the same time.

```
2 \newbool{LWR@longtable@havehead}
3 \boolfalse{LWR@longtable@havehead}
```

Env `longtable` * [*<horizontalignment>*] {*<colspec>*} Emulates the `longtable` environment.

Per the `caption` package, the starred version steps the counter per caption. The unstarred version steps the counter once at the beginning, but not at each caption.

Options [c], [l], and [r] are ignored.

```
4 \newenvironment{longtable*}[2][]{
5   \LWR@floatbegin{table}%
6   \setcaptiontype{\LTcotype}%
7   \caption@setoptions{longtable}%
8   \caption@setoptions{@longtable}%
9   \caption@LT@setup%
10  \booltrue{LWR@starredlongtable}%
11  \boolfalse{LWR@longtable@havehead}%
}
```

```

12   \let\captionlistentry\LWR@LTcaptionlistentry%
13   \tabular{#2}%
14 }
15 {\endtabular\LWR@floatend}
16
17 \newenvironment{longtable}[2][]{%
18   \LWR@floatbegin{table}%
19   \setcaptiontype{\LTcaptype}%
20   \caption@setoptions{longtable}%
21   \caption@setoptions{@longtable}%
22   \caption@LT@setup%
23   \refstepcounter{\LTcaptype}%
24   \boolfalse{\LWR@longtable@havehead}%
25   \let\captionlistentry\LWR@LTcaptionlistentry%
26   \tabular{#2}%
27 }
28 {\endtabular\LWR@floatend}

```

Provided for compatibility, but ignored:

```
29 \newcounter{LTchunksize}
```

Error for heads which should have been in \warpprintonly:

```

30 \newcommand*{\LWR@longtable@headerror}{%
31   \PackageError{lwarp}%
32   {For longtable:\MessageBreak
33    1: Keep either one of an \protect\endhead\space or
34      \protect\endfirsthead\space\MessageBreak
35      \space phrase as-is, to be used by both print and HTML.\MessageBreak
36    2: Place any other \protect\end... phrases inside a\MessageBreak
37      \space\protect\warpprintonly\space macro,
38      to be ignored by HTML.\MessageBreak
39    3: Add a final footer for HTML at the end of the table\MessageBreak
40      \space inside a \protect\warpHTMLonly\space macro.
41      This can be\MessageBreak
42      \space a copy of an \protect\endfoot\space or
43      \protect\endfirstfoot\space phrase,\MessageBreak
44      \space but without the actual \protect\endfoot\space
45      or \protect\endfirstfoot\MessageBreak
46      \space macros. If using threeparttablex, add\MessageBreak
47      \space \protect\insertTableNotes\space here,
48      optionally with\MessageBreak
49      \space \protect\UseMinipageWidths\space in front.\MessageBreak
50   See the Lwarp documentation regarding longtables\MessageBreak
51   and threeparttablex}%
52   {See the Lwarp documentation regarding longtables and threeparttablex.}%
53 }

```

Error if more than one of \endhead or \endfirsthead is outside \warpprintonly.

```

54 \newcommand*{\LWR@longtable@maybeheaderror}{%
55 \ifbool{\LWR@longtable@havehead}%
56   {\LWR@longtable@headerror}%

```

```

57      {%
58          \booltrue{\LWR@longtable@havehead}
59          \LWR@tabularendofline% throws away options // [dim] and //*
60      }%
61 }

Error if more than one of these is outside of warpprint.

62 \def\endhead{\LWR@longtable@maybeheadererror}
63 \def\endfirsthead{\LWR@longtable@maybeheadererror}

Error if ANY of these is outside of warpprint.

64 \def\endfoot{\LWR@longtable@headererror}
65 \def\endlastfoot{\LWR@longtable@headererror}

66 \providecommand*\LWR@HTML@tabularnewline{\LWR@tabularendofline}
67 \LWR@formatted{tabularnewline}

68 \newcommand{\setlongtables}{}% Obsolete command, does nothing.
69 \newlength{\LTleft}
70 \newlength{\LTright}
71 \newlength{\LTpre}
72 \newlength{\LTpost}
73 \newlength{\LTcapwidth}

74 \LetLtxMacro{\LWR@origkill}{\kill}
75 \renewcommand*\kill{\LWR@tabularendofline}
76 \appto{\LWR@restoreorigformatting}{%
77 \LetLtxMacro{\kill}{\LWR@origkill}}
78 }

```

File 223 **l warp-lscape.sty**

§ 323 Package **lscape**

(Emulates or patches code by D. P. CARLISLE.)

Pkg **lscape** **lscape** is ignored.

for HTML output: Discard all options for **l warp-lscape**.

```

1 \LWR@ProvidesPackageDrop{lscape}[2000/10/22]
2 \newenvironment*{landscape}{}{}

```

File 224 l warp-l tablex.sty

§ 324 Package **l tablex**

(Emulates or patches code by ANIL K. GOEL.)

Pkg **l tablex** **l tablex** is emulated by **l warp**.
for **HTML output**: Relies on **tabularx**.

```
1 \RequirePackage{longtable}
2 \RequirePackage{tabularx}
3
4 \LWR@ProvidesPackageDrop{l tablex}[2014/08/13]
5
6 \DeclareDocumentEnvironment{tabularx}{m o m}
7 {\longtable[#3]}
8 {\endlongtable}
9
10 \DeclareDocumentEnvironment{tabularx*}{m o m}
11 {\longtable[#3]}
12 {\endlongtable}
13
14 \newcommand*{\keepXColumns} {}
15 \newcommand*{\convertXColumns} {}
```

File 225 l warp-l t caption.sty

§ 325 Package **l t caption**

(Emulates or patches code by AXEL SOMMERFELDT.)

Pkg **l t caption** **l t caption** is ignored.
for **HTML output**: 1 \LWR@ProvidesPackageDrop{l t caption}[2018/08/26]

\LTcaptype is already defined by **l warp**.

longtable* is already defined by **l warp-longtable**.

```
2 \newlength{\LTcapskip}
3 \newlength{\LTcapleft}
4 \newlength{\LTcapright}
5 \newcommand*{\LTcapmarginsfalse} {}
```

File 226 **l warp-ltxgrid.sty**

§ 326 Package **ltxgrid**

Pkg ltxgrid ltxgrid is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{ltxgrid}[2010/07/25]

```
2 \newcommand*\{\\onecolumngrid}{}
3 \newcommand*\{\\twocolumngrid}{}
4 \newcommand*\{\\removestuff}{}
5 \newcommand*\{\\addstuff}[2]{}
6 \newcommand*\{\\replacestuff}[2]{}
```

File 227 **l warp-ltxtable.sty**

§ 327 Package **ltxtable**

Pkg ltxtable ltxtable is emulated.

⚠ **table numbering** The print version does not seem to honor `longtable*` from the `caption` package, while l warp does.

for HTML output: 1 \RequirePackage{tabularx, longtable}
2 \LWR@ProvidesPackageDrop{ltxtable}[1995/12/11]

```
\LTXtable {\langle width\rangle} {\langle file\rangle}
3 \newcommand*\{\\LTXtable}[2]{%
4   \input{\#2}%
5 }
```

File 228 **l warp-lua-check-hyphen.sty**

§ 328 Package **lua-check-hyphen**

Pkg lua-check-hyphen lua-check-hyphen is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{lua-check-hyphen}[2018/04/19]
2 \newcommand*\{\\LuaCheckHyphen}[1]{}

File 229 **l warp-lua-visual-debug.sty**

§ 329 Package **lua-visual-debug**

Pkg l ua-visual-debug l ua-visual-debug is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{lua-visual-debug}[2016/05/30]

File 230 **l warp-luacolor.sty**

§ 330 Package **luacolor**

Pkg luacolor luacolor is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{luacolor}[2016/05/16]

2 \newcommand{\luacolorProcessBox}[1]{}

File 231 **l warp-luamplib.sty**

§ 331 Package **luamplib**

(Emulates or patches code by HANS HAGEN, TACO HOEKWATER, ELIE ROUX, PHILIPP GESANG, KIM DOHYUN.)

Pkg luamplib luamplib is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{luamplib}[2020/02/24]

2 \BeforeBeginEnvironment{mplibcode}{%
3 \begin{lateximage}[-mplibcode-\~\PackageDiagramAltText]{}%
4 }
5 \AfterEndEnvironment{mplibcode}{\end{lateximage}}

File 232 **l warp-luatexko.sty**

§ 332 Package **luatexko**

(Emulates or patches code by DOHYUN KIM, SOOJIN NAM.)

Pkg luatexko luatexko is patched for use by l warp.

Modern HTML is used for \dotemph, \ruby, and offset and thickness control for \underline, etc.

for HTML output: 1 \LWR@ProvidesPackagePass{luatexko}[2020/03/20]

```

2 \newcommand{\LWR@HTML@dotemph}[1]{%
3 %     \uline{#1}%
4     \InlineClass{text-emphasis-style: dot}{dotemph}{#1}%
5 }
6 \LWR@formatted{dotemph}
7
8 \newcommand{\LWR@HTML@ruby}[2]{%
9     \LWR@htmlltagc{ruby}%
10    \LWR@htmlltagc{rb}\#1\LWR@htmlltagc{/rb}%
11    \LWR@htmlltagc{rp}(\LWR@htmlltagc{/rp}%
12    \LWR@htmlltagc{rt}\#2\LWR@htmlltagc{/rt}%
13    \LWR@htmlltagc{rp})\LWR@htmlltagc{/rp}%
14    \LWR@htmlltagc{/ruby}%
15 }
16 \LWR@formatted{ruby}
```

The following is modified from `lwarp-ulem`:

```

17 \NewDocumentCommand{\LWR@HTML@uline}{+m}{%
18     \InlineClass%
19         (text-decoration:underline; text-decoration-skip: auto)%
20     [%]
21         text-underline-offset: \ulinedown ;
22         text-decoration-thickness: \ulinewidth%
23     ]%
24     {uline}{\LWR@isolate{#1}}%
25 }
26 \LWR@formatted{uline}
27
28 \NewDocumentCommand{\LWR@HTML@uuline}{+m}{%
29     \InlineClass%
30         (%
31             text-decoration:underline; text-decoration-skip: auto;%
32             text-decoration-style:double%
33         )%
34     [%]
35         text-underline-offset: \ulinedown ;
36         text-decoration-thickness: \ulinewidth%
37     ]%
38     {uuline}{\LWR@isolate{#1}}%
39 }
40 \LWR@formatted{uuline}
41
42 \NewDocumentCommand{\LWR@HTML@uwave}{+m}{%
43     \InlineClass%
44         (%
45             text-decoration:underline; text-decoration-skip: auto;%
46             text-decoration-style:wavy%
47         )%
48     [%]
49         text-underline-offset: \ulinedown ;
50         text-decoration-thickness: \ulinewidth%
51     ]%
```

```
52           {uwave}{\LWR@isolate{#1}}%
53 }
54 \LWR@formatted{uwave}
55
56 \NewDocumentCommand{\LWR@HTML@sout}{+m}{%
57     \InlineClass%
58         (text-decoration:line-through)%
59         [text-decoration-thickness: \ulinewidth]%
60         {sout}{\LWR@isolate{#1}}%
61 }
62 \LWR@formatted{sout}
63
64 \NewDocumentCommand{\LWR@HTML@xout}{+m}{%
65     \InlineClass%
66         (text-decoration:line-through)%
67         [text-decoration-thickness: \ulinewidth]%
68         {xout}{\LWR@isolate{#1}}%
69 }
70 \LWR@formatted{xout}
71
72 \NewDocumentCommand{\LWR@HTML@dashunderline}{+m}{%
73     \InlineClass%
74     (%
75         text-decoration:underline;%
76         text-decoration-skip: auto;%
77         text-decoration-style:dashed%
78     )%
79     [%
80         text-underline-offset: \ulinedown ;
81         text-decoration-thickness: \ulinewidth%
82     ]%
83     {dashunderline}{\LWR@isolate{#1}}%
84 }
85 \LWR@formatted{dashunderline}
86
87 \NewDocumentCommand{\LWR@HTML@dotunderline}{+m}{%
88     \InlineClass%
89     (%
90         text-decoration:underline;%
91         text-decoration-skip: auto;%
92         text-decoration-style: dotted%
93     )%
94     [%
95         text-underline-offset: \ulinedown ;
96         text-decoration-thickness: \ulinewidth%
97     ]%
98     {dotunderline}{\LWR@isolate{#1}}%
99 }
100 \LWR@formatted{dotunderline}
```

File 233 **lwarf-luatodonotes.sty**

§ 333 Package **luatodonotes**

(Emulates or patches code by FABIAN LIPP.)

Pkg luatodonotes luatodonotes is emulated.

The documentation for todonotes and luatodonotes have an example with a todo inside a caption. If this example does not work it will be necessary to move the todo outside of the caption.

for HTML output 1 \LWR@ProvidesPackagePass{luatodonotes}[2017/09/30]

Nullify options:

```
2 \@todonotes@additionalMarginEnabledfalse

3 \if@todonotes@disabled
4 \else
5
6 \newcommand{\ext@todo}{\textcolor{red}{#1}}
7
8 \renewcommand{\l@todo}[2]{\hypertocfloat{1}{\textcolor{red}{#1}}{\textcolor{red}{#2}}}

9 \let\LWRTODONOTES@orig@todototoc\todototoc
10
11 \renewcommand*{\todototoc}{%
12 \phantomsection%
13 \LWRTODONOTES@orig@todototoc%
14 }
15
16
17 \renewcommand{\@todonotes@drawMarginNoteWithLine}{%
18 \fcolorbox{%
19   \color{todonotes@currentbordercolor}%
20   \color{todonotes@currentbackgroundcolor}%
21   \arabic{@todonotes@numberoftodonotes}%
22 }{\marginpar{\@todonotes@drawMarginNote}%
23 }
24
25 \renewcommand{\@todonotes@drawInlineNote}{%
26 \fcolorboxBlock{%
27   \color{todonotes@currentbordercolor}%
28   \color{todonotes@currentbackgroundcolor}%
29   {%
30     \if@todonotes@authorgiven%
31     {\@todonotes@author:\,}%
32     \fi%
33     \color{@todonotes@text}%
34   }%
35 }%
```

```
34      }%
35 }
36
37 \newcommand{\@todonotes@drawMarginNote}{%
38     \if@todonotes@authorgiven%
39         \@todonotes@author\par%
40     \fi%
41     \arabic{@todonotes@numberoftodonotes}: %
42     \fcolorbox{%
43         \color{@todonotes@currentbordercolor}%
44         \color{@todonotes@currentbackgroundcolor}%
45     }{%
46         \color{@todonotes@sizecommand}%
47         \color{@todonotes@text} %
48     }%
49 }%
50
51 \renewcommand{\missingfigure}[2][]{%
52 \setkeys{todonotes}{#1}%
53 \addcontentsline{tdo}{todo}{\@todonotes@MissingFigureText: #2}%
54 \fcolorboxBlock{%
55     \color{@todonotes@currentbordercolor}%
56     \color{@todonotes@currentfigcolor}%
57     {%
58         \setlength{\fboxrule}{4pt}%
59         \fcolorbox{red}{white}{Missing figure} \quad #2%
60     }%
61 }%
62
63 \LetLtxMacro{\LWR@TODONOTES@orig}{\@todocommon\@todocommon}%
64
65 \RenewDocumentCommand{\@todocommon}{m m}{%
66 \begingroup%
67 \renewcommand*{\phantomsection}{}%
68 \LWR@TODONOTES@orig{\@todocommon{#1}{#2}}%
69 \endgroup%
70 }%
71
72 \renewcommand{\@todoarea}[3][]{%
73     \color{@todonotes@areaselectedtrue}%
74     \color{@todocommon{#1}{#2}}%
75     \color{@todonotes@textmark@highlight{#3}}%
76     \zref@label{@todonotes@\arabic{@todonotes@numberoftodonotes}@end}%
77 }%
78
79
80 \DeclareDocumentCommand{\todonotes@textmark@highlight}{m}{%
81 \InlineClass[background:\LWR@orig\color{B3FFB3}{highlight}]{#1}%
82 }%
83
84 \fi% \if@todonotes@disabled
```

File 234 **l warp-lyluatex.sty**

§ 334 Package **lyluatex**

(Emulates or patches code by FR. JACQUES PERON, URS Liska, BR. SAMUEL SPRINGUEL.)

Pkg lyluatex lyluatex is patched for use by l warp.

For the first compile, to set *l warpmk*'s configuration, use:

```
lualatex --shell-escape <filename>
```

 **images** After compiling the document with **l warpmk html**, use **l warpmk l images** to convert the Lilypond images for HTML.

css The option `insert=systems` results in an image per system. Each music image “system” is placed inside a `` of class `lyluatex`, which defaults to display: `inline-block`.

 **insert=fullpage** **css** The option `insert=fullpage` results in a single image per page of printed output. Each music “fullpage” image is placed inside a `<div>` of class `lyluatex`. To match the number of measures per line with the printed version, use the `geometry` package to select the page geometry, or use the `lyluatex` options for page and staff sizes.

 **options** To use `\linewidth` or `\textwidth` inside the package options for `lyluatex`, use the `kvoptions-patch` package first:

```
\usepackage{kvoptions-patch}
\usepackage[...,line-width-0.8\linewidth,...]{lyluatex}
```

 **raw-pdf** If using `raw-pdf`, the resulting PDF images must be converted to SVG:

```
Enter ⇒ l warpmk pdftosvg tmp-ly/*.pdf
```

for HTML output:

- 1 `\LWR@origRequirePackage{luacode}`
- 2
- 3 `\LWR@ProvidesPackagePass{lyluatex}[2019/05/27]`

User-redefinable ALT tag:

```
4 \newcommand*{\LyluatexImageAltText}{-lilypond-\PackageDiagramAltText}
```

```
\ly@compilescore {⟨Lilypond object⟩}
5 \LetLtxMacro{\LWR@orig@\ly@compilescore}{\ly@compilescore}
6
7 \renewcommand*{\ly@compilescore}[1]{%
```

A local group holds a number of changes:

```
8 \begingroup%
```

The user's original geometry and font size are restored to match the print version. This allows for correct spacing in the musical score.

```
9   \LWR@orignewpage%
10  \LWR@origloadgeometry{\LWR@usergeometry}%
11  \LWR@print@normalsize%
```

A local group holds a redefined `\includegraphics` which is used by *lyluatek.lua* to insert the *Lilypond* score if `insert=systems` is used. This is now placed inside a `lateximage`, which itself is placed inside a `` of class *lyluatek*.

`\LWR@addbaselinemarker` preserves the left margins.

```
12  \renewcommand{\includegraphics}[2][]{%
13    \InLineClass{lyluatek}{%
14      \begin{lateximage}[\LyluatekImageAltText]%
15        \LWR@addbaselinemarker%
16        \LWR@origincludegraphics{##2}%
17      \end{lateximage}%
18    }%
19  }%
```

From the original:

```
20  \ly@setunits%
21  \directlua{
22    ly_opts:set_option('currfiledir', [[\currfiledir]])
23    ly_opts:set_option('twoside', '\ly@istwosided')
24    #1
25  }%
26  \ly@resetunits%
27  \ly@currentfonts%
```

The fullpage version is set inside an HTML `<div>`:

```
28  \directlua{
29    if (ly.score.insert == 'fullpage') then
30      tex.print{[[\string\begin{BlockClass}{lyluatek}]]}
31    end
32  }%
```

Generate the score:

```
33  \directlua{\ly.score:process()}%
```

Close the `<div>`:

```
34  \directlua{
35    if (ly.score.insert == 'fullpage') then
36      tex.print{[[\string\end{BlockClass}]]}
37    end
38  }%
```

Move to a new page and renew the regular page geometry:

```
39  \LWR@orignewpage%
40  \LWR@origrestoregeometry%
```

End of the local group.

```
41  \endgroup%
42 }
```

In HTML the following generates an error, so is removed:

```

43 \xpatchcmd{\endly@bufferenv}
44   {\hspace{0pt}\\"}
45   {}
46   {}
47   {\LWR@patcherror{lyluatex}{\endly@bufferenv}}

```

File 235 **lwarp-magaz.sty**

§ 335 Package **magaz**

Pkg **magaz** **magaz** is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{magaz}[2011/11/24]

```

2 \newcommand\FirstLine[1]{%
3   \begingroup%
4   \FirstLineFont{%
5     \LWR@textcurrentcolor{%
6       \LWR@textcurrentfont{%
7         #1%
8       }%
9     }%
10   }%
11   \endgroup%
12 }
13
14 \providecommand\FirstLineFont{\scshape}

```

File 236 **lwarp-makeidx.sty**

§ 336 Package **makeidx**

(Emulates or patches code by L^AT_EX PROJECT TEAM.)

Pkg **makeidx** **makeidx** is patched for use by **lwarp**.

for HTML output: 1 \LWR@ProvidesPackagePass{makeidx}[2014/09/29]

\@wrindex is redefined \AtBeginDocument by the **lwarp** core.

\printindex

```

2 \preto\printindex{%
3   \LWR@orignewpage%
4   \LWR@startpars%
5 }

```

File 237 **l warp-manyfoot.sty**

§ 337 Package **manyfoot**

Pkg **manyfoot** **manyfoot** is emulated.

bigfoot, manyfoot Verbatim footnotes are not yet supported.

⚠ **verbatim**

If using the **bigfoot** package, and possibly also **manyfoot**, problems may occur with counter allocation because **l warp** uses many counters, and there is a difference in how counters numbered 256 and up are handled in pdfLATEX. With **bigfoot** this has been known to show up as an error related to one footnote insert being forbidden inside another. Another problem showed up as a input stack error, and which of these problems occurred depended on how many counters were allocated.

As a possible solution, try creating several new counters before defining **bigfoot** or **manyfoot** footnotes, hoping to shift the problematic counter above the 256 threshold. It may instead be necessary to use XeLATEX or LuaLATEX instead of pdfLATEX.

l warp's emulation of **bigfoot** uses **manyfoot**, so some of the **bigfoot** enhancements are included here.

The **bigfoot** “default” footnote is ignored, using the **l warp** version instead.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{manyfoot}[2005/09/11]

2 \RequirePackage{nccfoot}
3
4 \newcommand{\extrafootnoterule}{}%
5
6 \let\defaultfootnoterule\footnoterule
7
8 \newcommand*{\SelectFootnoteRule}[2][0]{}%
9
10 \newcommand{\footnoterulepriority}{1}
11
12 \newcommand{\SetFootnoteHook}[1]{}%
13 @onlypreamble\SetFootnoteHook
14
15 \newcommand{\SplitNote}{}%
16
17 \newcommand*{\ExtraParaSkip}[1]{}%
18
19 \newcommand*{\newfootnote}[2][plain]{%
20   \ifstreq{\#2}{default}{}{\% not "default"
21     \expandafter\newbox\csname LWR@footnote#2box\endcsname%
22     \appto{\LWR@printpendingfootnotes}{%
23       \LWR@printpendingfootnotes{footnote#2}%
24     }%
25     \long\csdef{Footnotetext#2}##1##2{%
26       \NCC@makefnmark{##1}%
27     }%
28   }%
29 }
```

```

27          \LWR@@footnotetext{##2}{\LWR@footnote#2box}%
28      }%
29      \long\csdef{Footnotetext#2+}##1##2{%
30          \NCC@makefnmark{##1}%
31          \LWR@@footnotetext{##2}{\LWR@footnote#2box}%
32      }%
33  }% not "default"
34 }
35 \@onlypreamble\newfootnote
36
37 \newcommand*\DeclareNewFootnote[2][plain]{%
38   \@ifnextchar[%
39     {\LWR@manyfoot@declare{#1}{#2}}%
40     {\LWR@manyfoot@declare{#1}{#2}[arabic]}%
41 }
42
43 \def\LWR@manyfoot@declare#1#2[#3]{%
44 \ifstreq{\#2}{default}{}{%
45   \newfootnote[#1]{#2}%
46   \newcounter{footnote#2}%
47   \newcounter{footnote#2Reset}%
48   \setcounter{footnote#2Reset}{0}%
49   \csdef{thefootnote#2}{%
50     \expandafter\noexpand\csname @#3\endcsname%
51     \expandafter\noexpand\csname c@footnote#2\endcsname%
52   }%
}

```

For **bigfoot**, the footnote commands may be appended with one or two plusses or one or two minuses, which are ignored in HTML.

```

53  \expandafter\NewDocumentCommand\csname footnote#2\endcsname{t{+}t{+}t{-}t{-}}{%
54    \stepcounter{footnote#2}%
55    \protected@xdef\@thefnmark{\csname thefootnote#2\endcsname}%
56    \footnotemark%
57    \csuse{Footnotetext#2}{\@thefnmark}% absorbs the footnote contents
58  }%
59  \csdef{footnotemark#2}{%
60    \stepcounter{footnote#2}%
61    \protected@xdef\@thefnmark{\csname thefootnote#2\endcsname}%
62    \footnotemark%
63  }%
64  \expandafter\NewDocumentCommand\csname footnotetext#2\endcsname{t{+}t{+}t{-}t{-}}{%
65    \protected@xdef\@thefnmark{\csname thefootnote#2\endcsname}%
66    \csuse{Footnotetext#2}{\@thefnmark}% absorbs the footnote contents
67  }%
68  \csdef{Footnotemark#2}{%
69    \Footnotemark%
70  }%
71  \csdef{Footnote#2##1}{%
72    \Footnotemark{##1}%
73    \csuse{Footnotetext#2}{##1}%
74  }%
75 }% not "default"
76 }
77 \@onlypreamble\DeclareNewFootnote

```

File 238 **l warp-marginal.sty**

§ 338 Package **marginal**

Pkg **marginal** **marginal** is ignored.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{marginal}

2 \newcommand*{\showlostmarginals}{}%
3 \newcommand*{\enlargefreelist}{}%
4 \newcommand*{\onesidemarginals}{}%
```

File 239 **l warp-marginfit.sty**

§ 339 Package **marginfit**

Pkg **marginfit** **marginfit** is ignored.

for HTML output: Discard all options for **l warp-marginfit**:

```
1 \LWR@ProvidesPackageDrop{marginfit}[2018/06/08]
```

File 240 **l warp-marginfix.sty**

§ 340 Package **marginfix**

(Emulates or patches code by STEPHEN HICKS.)

Pkg **marginfix** **marginfix** is ignored.

for HTML output: Discard all options for **l warp-marginfix**:

```
1 \LWR@ProvidesPackageDrop{marginfix}[2013/09/08]
```

```
2 \newcommand*{\marginskip}[1]{}%
3 \newcommand*{\clearmargin}{}%
4 \newcommand*{\softclearmargin}{}%
5 \newcommand*{\extendmargin}[1]{}%
6 \newcommand*{\mparshift}[1]{}%
7 \newdimen\marginheightadjustment
8 \newdimen\marginposadjustment
9 \newcommand*{\blockmargin}[1][]{}
10 \newcommand*{\unblockmargin}[1][]{}
11 \newcommand*{\marginphantom}[2][]{}
```

File 241 l warp-marginnote.sty**§ 341 Package marginnote**

(Emulates or patches code by MARKUS KOHM.)

Pkg marginnote marginnote is emulated.

for HTML output: Discard all options for l warp-marginnote:

```
1 \LWR@ProvidesPackageDrop{marginnote}[2018/08/09]

2 \NewDocumentCommand{\marginnote}{+o +m o}{\marginpar{#2}}

3 \newcommand*{\marginnoteleftadjust}{}%
4 \newcommand*{\marginnoterightadjust}{}%
5 \newcommand*{\marginnotetextwidth}{}%
6 \let\marginnotetextwidth\textwidth
7 \newcommand*{\marginnotevadjust}{}%
8 \newcommand*{\marginfont}{}%
9 \newcommand*{\raggedleftmarginnote}{}%
10 \newcommand*{\raggedrightmarginnote}{}%

11 \appto\LWR@restoreorigformatting{%
12   \RenewDocumentCommand{\marginnote}{+o +m o}{}%
13 }
```

For MATHJAX:

```
14 \begin{warpMathJax}
15 \CustomizeMathJax{\newcommand{\LWRmarginnote}[1][]{}}
16 \CustomizeMathJax{\newcommand{\marginnote}[2][]{\quad\small\textrm{#2}\LWRmarginnote}}
17 \end{warpMathJax}
```

File 242 l warp-marvosym.sty**§ 342 Package marvosym**

(Emulates or patches code by THOMAS HENLICH, MOJCA MIKLAVEC.)

Pkg marvosym marvosym is patched for use by l warp.

Hashed inline images are used, as there may not be Unicode support for all icons.

for HTML output: 1 \LWR@ProvidesPackagePass{marvosym}[2011/07/20]

```

2 \renewcommand{\mvchr}[1]{%
3   \begin{lateximage}*[symbol #1][marvosym #1]%
4     \mvs\char#1%
5   \end{lateximage}%
6 }
7
8 \renewcommand{\textmvs}[1]{%
9   \begin{lateximage}%
10   \mvs #1%
11   \end{lateximage}%
12 }

```

File 243 **lwarp-mathcomp.sty**

§ 343 Package **mathcomp**

(Emulates or patches code by TILMANN BÖß.)

Pkg **mathcomp** **mathcomp** is supported as-is for SVG math, and is emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{mathcomp}[2001/01/07]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\tcohm}{\mathrm{\Omega}}}
4 \CustomizeMathJax{\newcommand{\tcelsius}{\mathrm{x2103}}}
5 \CustomizeMathJax{\newcommand{\tcmu}{\mathrm{x00B5}}}
6 \CustomizeMathJax{\newcommand{\tcpthousand}{\mathrm{x2030}}}
7 \CustomizeMathJax{\newcommand{\cpthousand}{\mathrm{x2031}}}
8 \CustomizeMathJax{\newcommand{\tcdegree}{\mathrm{\circ}}}
9 \CustomizeMathJax{\newcommand{\tdigitoldstyle}[1]{\mathrm{\oldstyle{#1}}}}
10 \end{warpMathJax}

```

File 244 **lwarp-mathdots.sty**

§ 344 Package **mathdots**

(Emulates or patches code by DAN LUECKING.)

Pkg **mathdots** **mathdots** is used as-is for SVG math, and emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{mathdots}[2014/06/11]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\iddots}{\mathrm{x22F0}}}
4 \end{warpMathJax}

```

File 245 l warp-mathfixs.sty**§ 345 Package mathfixs**

(Emulates or patches code by NIKLAS BEISERT.)

Pkg mathfixs mathfixs is used as-is for SVG math, and is emulated for MATHJAX.

⚠ Greek letters are unchanged.

for HTML output: 1 \LWR@ProvidesPackagePass{mathfixs}[2018/12/30]

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\rfrac}[2]{\tfrac{#1}{#2}}}
4 \CustomizeMathJax{\newcommand{\vfrac}[2]{\{}^{\#1}\!/\!\{\}_{\#2}\}}
5 \CustomizeMathJax{\newcommand{\ProvideMathFix}[1]{}}
6 \CustomizeMathJax{\newcommand{\mathbold}[1]{\boldsymbol{#1}}}
7 \CustomizeMathJax{\newcommand{\.}{\,,}}
8 \end{warpMathJax}
```

File 246 l warp-mathtools.sty**§ 346 Package mathtools**

(Emulates or patches code by MORTEN HØGHLØM, LARS MADSEN.)

Pkg mathtools mathtools is patched for use by l warp. Emulation macros are provided for MATHJAX.

⚠ equation numbering showonlyrefs is disabled, as it conflicts with cleveref, which is used by l warp. Equation numbers may not match the print version.

⚠ italic correction mathic is not emulated for HTML.

⚠ MATHJAX If using MATHJAX:

- Starred macros are not available. Starred environments do work.
- mathtools disallowspaces does not work for MATHJAX. Protect brackets which are not optional arguments, such as:
 $\begin{gathered} \text{[p]=1 . . .} \\ \end{gathered}$
- showonlyrefs does not work in MATHJAX, and will result in a difference in equation numbering compared to the print version.
- Due to MATHJAX limitations, the following do not render well: \overbracket, \underbracket, \overbrace, \underbrace, \rcases, \dcases, \Aboxed, and \ArrowBetweenLines.

- For the new cases-like environments, \text must be used to set the normal roman font if desired.
- alignat in MATHJAX requires math mode, but in LATEXit doesn't. It may be required to use warpHTML and warpprint to isolate a version for each mode.
- \DeclareParedDelimiter and related must be in the preamble before \begin{document}. The starred versions of each macro are not created.

for HTML output: 1 \LWR@ProvidesPackagePass{mathtools}[2018/01/08]

```
2 \RequirePackage{graphicx}

3 \MHInternalSyntaxOn
```

Forces showonlyrefs off because lwarp uses cleveref, which is not compatible with showonlyrefs.

```
4 \renewcommand*\MT_showonlyrefs_true:{%
5   \PackageWarningNoLine{lwarp}%
6   {%
7     Mathtools \space showonlyrefs \space conflicts \space
8     with \space cleveref, \MessageBreak
9     which \space is \space used \space by \space lwarp, \space
10    so \space showonlyrefs \space is\MessageBreak
11    forced \space off. \space\space
12    Equation \space numbers \space may \space not \space match%
13  }%
14  \MT_showonlyrefs_false:%
15 }%
16 \mathtoolsset{showonlyrefs=false}
```

Forces math italic correction off. Not patched for lwarp.

```
17 \renewcommand*{\MT_mathic_true:}{\MT_mathic_false:}%
18 \mathtoolsset{mathic=false}%

19 \MHInternalSyntaxOff
```

For MATHJAX:

```
20 \begin{warpMathJax}
21 \LWR@infoprocessingmathjax{mathtools}
22
23 \CustomizeMathJax{\newcommand{\mathllap}[2][]{\#1\#2}}
24 \CustomizeMathJax{\newcommand{\mathrlap}[2][]{\#1\#2}}
25 \CustomizeMathJax{\newcommand{\mathclap}[2][]{\#1\#2}}
26 \CustomizeMathJax{\newcommand{\mathmbox}[1]{\#1}}
27 \CustomizeMathJax{\newcommand{\clap}[1]{\#1}}
28 \CustomizeMathJax{\newcommand{\LWRmathmakebox}[2][]{\#2}}
29 \CustomizeMathJax{\newcommand{\mathmakebox}[1][]{\LWRmathmakebox}}
30 \CustomizeMathJax{\newcommand{\cramped}[2][]{\#1\#2}}
31 \CustomizeMathJax{\newcommand{\crampedllap}[2][]{\#1\#2}}
```

```
32 \CustomizeMathJax{\newcommand{\crampedrlap}[2][]{\#1#2}}}
33 \CustomizeMathJax{\newcommand{\crampedlap}[2][]{\#1#2}}}
34 \CustomizeMathJax{\newenvironment{crampedsubarray}[1]{}{}}
35 \CustomizeMathJax{\newcommand{\crampedsubstack}{}}
36 \CustomizeMathJax{\newcommand{\smashoperator}[2][]{\#2}}
37 \CustomizeMathJax{\newcommand{\SwapAboveDisplaySkip}{}}
38
39 \CustomizeMathJax{\require{extpfeil}}
40 \CustomizeMathJax{\Newextarrow\xleftrightarrow{10,10}{0x2194}}
41 \CustomizeMathJax{\Newextarrow\xLeftarrow{10,10}{0x21d0}}
42 \CustomizeMathJax{\Newextarrow\xhookleftarrow{10,10}{0x21a9}}
43 \CustomizeMathJax{\Newextarrow\xmapsto{10,10}{0x21a6}}
44 \CustomizeMathJax{\Newextarrow\xRightarrow{10,10}{0x21d2}}
45 \CustomizeMathJax{\Newextarrow\xLeftrightarrow{10,10}{0x21d4}}
46 \CustomizeMathJax{\Newextarrow\xhookrightarrow{10,10}{0x21aa}}
47 \CustomizeMathJax{\Newextarrow\xrightharpoondown{10,10}{0x21c1}}
48 \CustomizeMathJax{\Newextarrow\xleftharpoondown{10,10}{0x21bd}}
49 \CustomizeMathJax{\Newextarrow\xrightleftharpoons{10,10}{0x21cc}}
50 \CustomizeMathJax{\Newextarrow\xrightharpoonup{10,10}{0x21c0}}
51 \CustomizeMathJax{\Newextarrow\xleftharpoonup{10,10}{0x21bc}}
52 \CustomizeMathJax{\Newextarrow\xleftrightharpoons{10,10}{0x21cb}}
53
54 \CustomizeMathJax{\newcommand{\LWRdounderbrace}[1]{\underline{\#1}}}
55 \CustomizeMathJax{\newcommand{\LWRunderbrace}[2][]{\LWRdounderbrace{\#2}}}
56 \CustomizeMathJax{\newcommand{\underbrace}[1][]{\LWRunderbrace{#1}}}
57 \CustomizeMathJax{\newcommand{\LWRdooverbrace}[1]{\overline{\#1}}}
58 \CustomizeMathJax{\newcommand{\LWRoverbrace}[2][]{\LWRdooverbrace{\#2}}}
59 \CustomizeMathJax{\newcommand{\overbrace}[1][]{\LWRoverbrace{#1}}}
60
61 \CustomizeMathJax{\newcommand{\LaTeXunderbrace}[1]{\underbrace{\#1}}}
62 \CustomizeMathJax{\newcommand{\LaTeXoverbrace}[1]{\overbrace{\#1}}}
63
64 \CustomizeMathJax{\newenvironment{matrix*}[1][]{\begin{matrix}}{\end{matrix}}}
65 \CustomizeMathJax{\newenvironment{pmatrix*}[1][]{\begin{pmatrix}}{\end{pmatrix}}}
66 \CustomizeMathJax{\newenvironment{bmatrix*}[1][]{\begin{bmatrix}}{\end{bmatrix}}}
67 \CustomizeMathJax{\newenvironment{Bmatrix*}[1][]{\begin{Bmatrix}}{\end{Bmatrix}}}
68 \CustomizeMathJax{\newenvironment{vmatrix*}[1][]{\begin{vmatrix}}{\end{vmatrix}}}
69 \CustomizeMathJax{\newenvironment{Vmatrix*}[1][]{\begin{Vmatrix}}{\end{Vmatrix}}}
70 \CustomizeMathJax{\newenvironment{smallmatrix*}[1][]{\begin{matrix}}{\end{matrix}}}
71 \CustomizeMathJax{\newenvironment{psmallmatrix*}[1][]{\begin{pmatrix}}{\end{pmatrix}}}
72 \CustomizeMathJax{\newenvironment{bsmallmatrix*}[1][]{\begin{bmatrix}}{\end{bmatrix}}}
73 \CustomizeMathJax{\newenvironment{Bsmallmatrix*}[1][]{\begin{Bmatrix}}{\end{Bmatrix}}}
74 \CustomizeMathJax{\newenvironment{vsmallmatrix*}[1][]{\begin{vmatrix}}{\end{vmatrix}}}
75 \CustomizeMathJax{\newenvironment{Vsmallmatrix*}[1][]{\begin{Vmatrix}}{\end{Vmatrix}}}
76 \CustomizeMathJax{\newenvironment{psmallmatrix}[1][]{\begin{pmatrix}}{\end{pmatrix}}}
77 \CustomizeMathJax{\newenvironment{bsmallmatrix}[1][]{\begin{bmatrix}}{\end{bmatrix}}}
78 \CustomizeMathJax{\newenvironment{Bsmallmatrix}[1][]{\begin{Bmatrix}}{\end{Bmatrix}}}
79 \CustomizeMathJax{\newenvironment{vsmallmatrix}[1][]{\begin{vmatrix}}{\end{vmatrix}}}
80 \CustomizeMathJax{\newenvironment{Vsmallmatrix}[1][]{\begin{Vmatrix}}{\end{Vmatrix}}}
81
82
83 \CustomizeMathJax{\newcommand{\LWRmultlined}[1][]{\begin{multline}}}
84 \CustomizeMathJax{\newenvironment{multlined}[1][]{\LWRmultlined}{\end{multline}}}
85
86 \CustomizeMathJax{\let\LWRorigshoveleft\shoveleft}
```

```
87 \CustomizeMathJax{\renewcommand{\shoveleft}[1][]{\LWRorigshoveleft}}
88 \CustomizeMathJax{\let\LWRorigshoveright\shoveright}
89 \CustomizeMathJax{\renewcommand{\shoveright}[1][]{\LWRorigshoveright}}
90
91 \CustomizeMathJax{\newenvironment{dcases}{\begin{cases}}{\end{cases}}}
92 \CustomizeMathJax{\newenvironment{dcases*}{\begin{cases}}{\end{cases}}}
93 \CustomizeMathJax{\newenvironment{rcases}{\begin{cases}}{\end{cases}}}
94 \CustomizeMathJax{\newenvironment{rcases*}{\begin{cases}}{\end{cases}}}
95 \CustomizeMathJax{\newenvironment{drcases}{\begin{cases}}{\end{cases}}}
96 \CustomizeMathJax{\newenvironment{drcases*}{\begin{cases}}{\end{cases}}}
97 \CustomizeMathJax{\newenvironment{cases*}{\begin{cases}}{\end{cases}}}
98
99 \CustomizeMathJax{\newcommand{\MoveEqLeft}[1][]{}}
100
101 \CustomizeMathJax{%
102     \def\LWRboxed{\!{\fbox{(\#1)}\&\fbox{(\#2)}}}
103     \newcommand{\boxed}[1]{\LWRboxed{\!{\#1}\!{\#2}\!{\#3}!}}
104 }
105
106 \CustomizeMathJax{
107     \newcommand{\ArrowBetweenLines}[1][\Updownarrow]{\text{\#1}\!{\notag}\!{\text{\#1}}}
108 }
109
110 \CustomizeMathJax{\newcommand{\shortintertext}[1]{\text{\#1}\!{\notag}\!{\text{\#1}}}}
111
112 \CustomizeMathJax{\newcommand{\vdotswithin}[1]{\hspace{.5em}\vdots}}
113 \CustomizeMathJax{\newcommand{\shortvdotswithin}[1]{\&\hspace{.5em}\vdots}}
114 \CustomizeMathJax{\newcommand{\MTFlushSpaceAbove}{\vphantom{A}}}
115 \CustomizeMathJax{\newcommand{\MTFlushSpaceBelow}{\vphantom{B}}}
116
117 % The following does not create a starred version of the macro:
118 \LetLtxMacro{\LWR@mathtools@orig}{\DeclarePairedDelimiter{\LWR@mathtools@orig}{(}{)}}
```

```
142 \appto\LWR@customizedMathJax{\LWRbackslash()%  
143 \appto\LWR@customizedMathJax{%
```

\LWRbackslash{}newcommand{\LWRbackslash\macrotocname{#1}\}[1][]%
145 }%
146 \appto\LWR@customizedMathJax{%

\{
148 \LWRbackslash{}def\LWRbackslash{}delimsize{\#1}
149 \LWRbackslash\macrotocname{#1}\LWRsub
150 }\%
151 }%
152 \appto\LWR@customizedMathJax{\LWRbackslash}\par)%
153 }
154 \@onlypreamble\DeclareParedDelimiterXPP
155 \@onlypreamble\DeclareParedDelimiterX
156
157 \CustomizeMathJax{\newcommand\lparen{()}}
158 \CustomizeMathJax{\newcommand\rparen{)}}
159 \CustomizeMathJax{\newcommand\vcntcolon{::}}
160 \CustomizeMathJax{\newcommand\ordinarycolon{::}}
161
162 \CustomizeMathJax{\newcommand\dblcolon{\vcntcolon\vcntcolon}}
163 \CustomizeMathJax{\newcommand\coloneqq{\vcntcolon=}}
164 \CustomizeMathJax{\newcommand\Coloneqq{\dblcolon=}}
165 \CustomizeMathJax{\newcommand\coloneq{\vcntcolon{-}}}
166 \CustomizeMathJax{\newcommand\Coloneq{\dblcolon{-}}}
167
168 \CustomizeMathJax{\newcommand\eqqcolon{=\vcntcolon}}
169 \CustomizeMathJax{\newcommand\Eqqcolon{=\dblcolon}}
170 \CustomizeMathJax{\newcommand\eqcolon{\mathrel{-}}\vcntcolon}}
171 \CustomizeMathJax{\newcommand\Eqcolon{\mathrel{-}}\dblcolon}}
172
173 \CustomizeMathJax{\newcommand\colonapprox{\vcntcolon\approx}}
174 \CustomizeMathJax{\newcommand\Colonapprox{\dblcolon\approx}}
175 \CustomizeMathJax{\newcommand\colonsim{\vcntcolon\sim}}
176 \CustomizeMathJax{\newcommand\Colonsim{\dblcolon\sim}}
177
178 \CustomizeMathJax{\newcommand\nuparrow{\cancel{\uparrow}}}
179 \CustomizeMathJax{\newcommand\ndownarrow{\cancel{\downarrow}}}
180 \CustomizeMathJax{\newcommand\bigtimes{\Large\times}}
181
182 \CustomizeMathJax{\newcommand\prescript[3]{\{}{\}^{\#1}-_{\#2}\#3\}}
183
184
185 \CustomizeMathJax{\newenvironment{lgathered}{\begin{gathered}}{\end{gathered}}}
186 \CustomizeMathJax{\newenvironment{rgathered}{\begin{gathered}}{\end{gathered}}}
187
188 \LetLtxMacro\LWR@mathtools@orig@newgathered\newgathered
189 \renewcommand{\newgathered}[4]{%
190 \LWR@mathtools@orig@newgathered{\#1}{\#2}{\#3}{\#4}%
191 \appto\LWR@customizedMathJax{\LWRbackslash{}}%
192 \LWR@subcustomizedmathjax{%

\newenvironment{\#1}{\begin{gathered}}{\end{gathered}}%
194 }%
195 \appto\LWR@customizedMathJax{\LWRbackslash})%
196 }

```
197 \@onlypreamble\newgathered
198
199 \CustomizeMathJax{\newcommand{\splitfrac}[2]{\{}^{\#1}\}_{\#2}}}
200 \CustomizeMathJax{\let\splitdfrac\splitfrac}
201 \end{warpMathJax}
```

File 247 l warp-mcaption.sty**§ 347 Package mcaption**

(Emulates or patches code by STEPHAN HENNIG.)

Pkg mcaption mcaption is ignored.

for HTML output Discard all options for l warp-mcaption:

```
1 \LWR@ProvidesPackageDrop{mcaption}[2009/03/13]

2 \newenvironment{margincap}{}{}
3 \newcommand*{\margincapalign}{}
4 \newlength{\margincapsep}
```

File 248 l warp-mdframed.sty**§ 348 Package mdframed**

(Emulates or patches code by MARCO DANIEL, ELKE SCHUBERT.)

Pkg mdframed mdframed is loaded with options forced to framemethod=none.

§ 348.1 Limitations

support Most basic functionality is supported, including frame background colors and single-border colors and thickness, title and subtitle background colors and borders and thickness, border radius, and shadow. CSS classes are created for mdframed environments and frame titles.

⚠ loading When used, l warp loads mdframed in HTML with framemethod=none.

font For title font, use

frametitlefont=\textbf,

instead of

frametitlefont=\bfseries,

where \textbf must appear just before the comma and will receive the following text as its argument (since the text happens to be between braces in the mdframed source).

Since `l warp` does not support `\bfseries` and friends, only one font selection may be made at a time.

theoremtitlefont `theoremtitlefont` is not supported, since the following text is not in braces in the `mdframed` source.

ignored options `userdefinedwidth` and `align` are currently ignored.

css classes Environments created or encapsulated by `mdframed` are enclosed in a `<div>` of class `mdframed`, and also class `md<environmentname>` for new environments.

Frame titles are placed in a `<div>` of class `|mdframedtitle|`. Subtitles are in a `<div>` of class `|mdframedsubtitle|`, and likewise for subsubtitles.

Pre-existing hooks are used to patch extra functions before and after the frames.

§ 348.2 Package loading

for HTML output:

```
1 \RequirePackage{xcolor}%
2 %
3 \LWR@ProvidesPackageDrop{mdframed}[2013/07/01]
```

Do not require Tikz or pstricks:

```
4 \LWR@origRequirePackage[framemethod=none]{mdframed}
```

§ 348.3 Patches

Patch to remove PDF formatting and add HTML tags:

```
5 \AtBeginDocument{
6 \def\mdf@trivlist#1{%
7   \edef\mdf@temp{%
8     \topsep=\the\topsep\relax%
9     \partopsep=\the\partopsep\relax%
10    \parsep=\the\parsep\relax%
11  }%
12  \setlength{\topsep}{#1}%
13  \topskip\z@%
14  \partopsep\z@%
15  \parsep\z@%
16  \@nmbrlistfalse%
17  \@trivlist%
18  \labelwidth\z@%
19  \leftmargin\z@%
20  \itemindent\z@%
21  \let\itemlabel\empty%
22  \def\makelabel##1{##1}%
23  \item\relax\mdf@temp\relax%
24 }
25 %
26 \renewcommand*\endmdf@trivlist{%
27 \LWR@traceinfo{endmdf@trivlist}%
28 \endtrivlist%
29 \LWR@listend%
```

```

30 }
31 }% AtBeginDocument

```

§ 348.4 Initial setup

To handle css and paragraphs, patch code at start and end of environment and contents. `\LWR@print@raggedright` helps avoid hyphenation.

```

32 \mdfsetup{
33 startcode={\LWR@mdframedstart\LWR@print@raggedright},
34 endcode={\LWR@mdframedend},
35 startinnercode={\LWR@startpars\LWR@print@raggedright},
36 endinnercode={\LWR@stoppars},
37 }

```

§ 348.5 Color and length HTML conversion

`\LWR@mdfprintcolor` {*mdfcolorkey*}

Given the `mdframed` key, print the color.

```

38 \newcommand*{\LWR@mdfprintcolor}[1]{%
39 \convertcolorspec{named}{\nameuse{mdf@\#1}}{HTML}\LWR@tempcolor%
40 \LWR@origpound\LWR@tempcolor
41 }

```

`\LWR@mdfprintlength` {*mdflengthkey*}

Given the `mdframed` key, print the length.

```

42 \newcommand*{\LWR@mdfprintlength}[1]{%
43 \LWR@forceminwidth{\nameuse{mdf@\#1@length}}%
44 \LWR@printlength{\LWR@atleastonept}%
45 }

```

§ 348.6 Environment encapsulation

`\LWR@mdframedstart` Actions before an mdframe starts.

Encapsulate a frame inside a `<div>` of the desired class.

```

46 \newcommand*{\LWR@mdframedstart}{%
47 \LWR@traceinfo{\LWR@mdframedstart start}%

```

Turn off paragraph handling during the generation of the encapsulating tags:

```
48 \LWR@stoppars%
```

Open a `<div>` and with custom `class` and `style`. A `BlockClass` environment is not used because this `<div>` is created by the `mdframed` `startcode` and `endcode` settings, which do not properly nest the `<div>` inside the `mdframed` environment.

```

49 \LWR@htmllagc{div class="%"
50 mdframed%
51 \ifdefstring{\LWR@mdthisenv}{mdframed}{}{\LWR@mdthisenv}%
52 " \LWR@orignewline
53 style=" \LWR@orignewline

```

Convert and print the background color:

```
54 background: \LWR@mdfprintcolor{backgroundcolor} ; \LWR@orignewline
```

Convert and print the border color and width:

```
55 border: \LWR@mdfprintlength{linewidth} solid  
56 \LWR@mdfprintcolor{linecolor} ; \LWR@orignewline
```

Convert and print the border radius:

```
57 border-radius: \LWR@mdfprintlength{roundcorner} ; \LWR@orignewline
```

Convert and print the shadow:

```
58 \ifbool{mdf@shadow}{%  
59   box-shadow:  
60   \LWR@mdfprintlength{shadowsize}  
61   \LWR@mdfprintlength{shadowsize}  
62   \LWR@mdfprintlength{shadowsize}  
63   \LWR@mdfprintcolor{shadowcolor} ;  
64 }  
65 {box-shadow: none ;}  
66 \LWR@orignewline  
  
67 "%}  
68 % \LWR@htmldivclass{\LWR@mdthisenv}
```

`mdframed` environment may not work with the `HTML` versions of the following, so restore them to their originals while inside `mdframed`:

```
69 \LWR@select@print@hspace%  
70 \renewcommand*{\rule}{\LWR@print@rule}  
71 \LetLtxMacro{\makebox}{\LWR@print@makebox}%  
  
72 \LWR@startpars%  
73 \LWR@traceinfo{\LWR@mdframedstart done}%  
74 }
```

`\LWR@mdframedend` Actions after an `mdframe` ends.

After closing the `<div>`, globally restore to the default environment type:

```
75 \newcommand*{\LWR@mdframedend}{%  
76 \LWR@traceinfo{\LWR@mdframedend start}%
```

Close the custom `<div>`:

```
77 \LWR@htmldivclassend{\LWR@mdthisenv}
```

Reset future custom class to the default:

```
78 \gdef\LWR@mdthisenv{mdframed}
```

Resume paragraph handling:

```
79 \LWR@startpars%  
80 \LWR@traceinfo{\LWR@mdframedend done}%  
81 }
```

§ 348.7 Mdframed environment

```

82 \renewenvironment{mdframed}[1][]{
83   \color@begingroup%
84   \mdfsetup{userdefinedwidth=\linewidth,#1}%
85   \mdf@startcode%
86   \mdf@preenvsetting%
87   \ifdefempty{\mdf@firstframetitle}{}
88     {\let\mdf@frametitlesave\mdf@frametitle%
89      \let\mdf@frametitle\mdf@firstframetitle%
90    }%
91   \ifvmode\nointerlineskip\fi%
92   \ifdefempty{\mdf@frametitle}{}
93     {\mdfframedtitleenv{\mdf@frametitle}%
94      \mdf@frametitle@use%
95    }%
96   \mdf@trivlist{\mdf@skipabove@length}%
97   \mdf@settings%
98 %   \mdf@lrbox{\mdf@splitbox@one}%
99 %   \mdf@startinnercode%
100 }%
101 {%
102 %   \mdf@ignorelastdescenders%
103   \par%
104 %   \unskip\ifvmode\nointerlineskip\hrule \@height\z@ \@width\hsize\fi%
105   \ifmdf@footnoteinside%
106     \def\mdf@reserved@%
107     \mdf@footnoteoutput%
108 %     \mdf@endinnercode%
109 %     \endmdf@lrbox%
110 %     \ifdefempty{\mdf@frametitle}{}
111 %       {\mdfframedtitleenv{\mdf@frametitle}\mdf@frametitle@use}%
112 %       \detected@mdf@put@frame%
113     }%
114   \else%
115     \def\mdf@reserved@%
116 %     \mdf@endinnercode%
117 %     \endmdf@lrbox%
118 %     \ifdefempty{\mdf@frametitle}{}
119 %       {\mdfframedtitleenv{\mdf@frametitle}\mdf@frametitle@use}%
120 %       \detected@mdf@put@frame%
121     \mdf@footnoteoutput%
122   }%
123   \fi%
124   \mdf@reserved@%
125   \aftergroup\endmdf@trivlist%
126   \color@endgroup%
127   \mdf@endcode%
128 }

\mdf@footnoteoutput
129 \renewrobustcmd*\mdf@footnoteoutput{%
130   \LWR@printpendingmpfootnotes%
131 }

```

§ 348.8 Titles and subtitles

\mdfframedtitleenv {*<title>*}

Place the title inside a <div> of class mdframedtitle:

```
132 \newlength{\LWR@titleroundcorner}
133
134 \renewrobustcmd\mdfframedtitleenv[1]{%
135 \LWR@traceinfo{\LWR@mdframedtitleenv start}%

```

Open a <div> with a custom class and custom style:

```
136 \begin{BlockClass}[%
```

Convert and print the title background color:

```
137 background:
138 \LWR@mdfprintcolor{frametitlebackgroundcolor}
139 ; \LWR@orignewline
```

Convert and print the title rule:

```
140 \ifbool{mdf@frametitlerule}{%
141   border-bottom:
142   \LWR@mdfprintlength{frametitlerulewidth}
143   solid
144   \LWR@mdfprintcolor{frametitlerulecolor}
145   ; \LWR@orignewline
146 }{}%
```

Finish the custom style and the opening <div> tag:

```
147 ]{mdframedtitle}%
```

Print the title inside the <div>:

```
148 \mdf@frametitlefont{\LWR@textcurrentfont{\#1}}%
```

Close the <div>:

```
149 \end{BlockClass}%
150 \LWR@traceinfo{\LWR@mdframedtitleenv end}%
151 }
```

\LWR@mdfsubtitlecommon {*<sub—or—subsub>*} [*<options>*] {*<title>*}

Common code for \LWR@mdfsubtitle and \LWR@mdfsubsubtitle.

Encapsulate the subtitle inside a <div> of class mdframedsubtitle:

```
152 \NewDocumentCommand{\LWR@mdfsubtitlecommon}{m o m}
153 % the following empty line is required
154
155 \LWR@traceinfo{\LWR@mdframedsubtitlecommon start}%
```

Open a <div> with a custom class and custom style:

```
156 \begin{BlockClass}[%
```

Convert and print the background color:

```
157 background:
158 \LWR@mdfprintcolor{\#1titlebackgroundcolor}
159 ; \LWR@orignewline
```

Convert and print the above line:

```

160 \ifbool{mdf@#1titleaboveline}%
161   border-top:
162   \LWR@mdfprintlength{#1titleabovelinewidth}
163   solid
164   \LWR@mdfprintcolor{#1titleabovelinecolor}
165   ; \LWR@orignewline
166 }{}%
```

Convert and print the below line:

```

167 \ifbool{mdf@#1titlebelowline}%
168   border-bottom:
169   \LWR@mdfprintlength{#1titlebelowlinewidth}
170   solid
171   \LWR@mdfprintcolor{#1titlebelowlinecolor}
172   ; \LWR@orignewline
173 }{}%
```

Finish the custom style and the opening <div> tag:

```
174 ]{mdframed#1title}%
```

Perform the original subtitle action:

```

175 \IfNoValueTF{#2}%
176 { \nameuse{\LWR@origmdf#1title}{\csuse{mdf@#1titlefont}{\LWR@textcurrentfont{#3}}}}%
177 { \nameuse{\LWR@origmdf#1title}{\#2}{\csuse{mdf@#1titlefont}{\LWR@textcurrentfont{#3}}}}%
```

Close the <div>:

```

178 \end{BlockClass}%
179 \LWR@traceinfo{LWR@mdframedsubtitlecommon end}%
180 }
```

\LWR@mdfsubtitle [⟨options⟩] {⟨title⟩}

```

181 \newcommand*{\LWR@mdfsubtitle}{%
182 \LWR@mdfsubtitlecommon{sub}%
183 }%
184 \let\mdfsubtitle\LWR@mdfsubtitle
```

\LWR@mdfsubsubtitle [⟨options⟩] {⟨title⟩}

```

185 \newcommand*{\LWR@mdfsubsubtitle}{%
186 \LWR@mdfsubtitlecommon{subsub}%
187 }%
188 \let\mdfsubsubtitle\LWR@mdfsubsubtitle
```

§ 348.9 New environments

\LWR@mdthisenv Stores the environment of the frame about to be created:

```
189 \newcommand*{\LWR@mdthisenv}{mdframed}
```

\newmdenv [*options*] {*env-name*}

Modified from the original to remember the environment.

```
190 \renewrobustcmd*\newmdenv[2][]{%
191 \newenvironment{#2}%
192 {%
193 \mdfsetup{#1}%
194 \renewcommand*{\LWR@mdthisenv}{md#2}%
195 \begin{mdframed}%
196 }%
197 {\end{mdframed}}%
198 }
```

\surroundwithmdframed [*options*] {*environment*}

Modified from the original to remember the environment.

```
199 \renewrobustcmd*\surroundwithmdframed}[2][]{%
200 \BeforeBeginEnvironment{#2}%
201 \renewcommand*{\LWR@mdthisenv}{md#2}%
202 \begin{mdframed}[#1]}%
203 \AfterEndEnvironment{#2}{\end{mdframed}}%
204 }
```

\mdtheorem [*mdframed-options*] {*envname*} [*numberedlike*] {*caption*} [*within*]

Modified from the original to remember the environment.

```
205 \DeclareDocumentCommand{\mdtheorem}{ O{} m o m o }{%
206 {\ifcsdef{#2}%
207 {\mdf@PackageWarning{Environment #2 already exists\MessageBreak}}%
208 {%
209 \IfNoValueTF{#3}%
210 {##3 not given -- number relationship
211 \IfNoValueTF{#5}%
212 {##3+##5 not given
213 \@definecounter{#2}%
214 \expandafter\xdef\csname the#2\endcsname{@thmcounter{#2}}%
215 \newenvironment{#2}[1][]{%
216 \refstepcounter{#2}%
217 \ifstrempty{##1}%
218 {\let\@temptitle\relax}%
219 {%
220 \def\@temptitle{\mdf@theoremseparator%
221 \mdf@theoremspace%
222 \mdf@theoremtitlefont%
223 \LWR@textcurrentfont{##1}}% l warp
224 \mdf@thm@caption{#2}{##4}{\csname the#2\endcsname{##1}}%
225 }%
226 \begin{mdframed}[#1,frametitle={\strut\#4\! \csname the#2\endcsname%
```

```
227                                     \atemptitle}]}%
228         {\end{mdframed}}%
229         \newenvironment{#2*}[1][]{%
230             \ifstrempty{##1}{\let\atemptitle\relax}{\def\atemptitle{:\ \ ##1}}%
231             \begin{mdframed}[#1,frametitle={\strut#4\atemptitle}]}%
232             {\end{mdframed}}%
233         }%
234         {##5 given -- reset counter
235         \definecounter{#2}\newctr{#2}[#5]%
236         \expandafter\xdef\csname the#2\endcsname{\thmcounter{#2}}%
237         \expandafter\xdef\csname the#2\endcsname{%
238             \expandafter\noexpand\csname the#5\endcsname \thmcountersep%
239             \thmcounter{#2}}%
240         \newenvironment{#2}[1][]{%
241             \refstepcounter{#2}%
242             \ifstrempty{##1}%
243                 {\let\atemptitle\relax}%
244                 {%
245                     \def\atemptitle{\mdf@theoremseparator%
246                         \mdf@theoremspace%
247                         \mdf@theoremtitlefont%
248                         \LWR@textcurrentfont{##1}}% lwarp
249                     \mdf@thm@caption{#2}{#4}{\csname the#2\endcsname{##1}}%
250                 }
251             \begin{mdframed}[#1,frametitle={\strut#4\ \csname the#2\endcsname%
252                                         \atemptitle}]}%
253             {\end{mdframed}}%
254         \newenvironment{#2*}[1][]{%
255             \ifstrempty{##1}%
256                 {\let\atemptitle\relax}%
257                 {%
258                     \def\atemptitle{\mdf@theoremseparator%
259                         \mdf@theoremspace%
260                         \mdf@theoremtitlefont%
261                         \LWR@textcurrentfont{##1}}% lwarp
262                     \mdf@thm@caption{#2}{#4}{\csname the#2\endcsname{##1}}%
263                 }
264             \begin{mdframed}[#1,frametitle={\strut#4\atemptitle}]}%
265             {\end{mdframed}}%
266         }%
267     }%
268     {##3 given -- number relationship
269     \global\@namedef{the#2}{\nameuse{the#3}}%
270     \newenvironment{#2}[1][]{%
271         \refstepcounter{#3}%
272         \ifstrempty{##1}%
273             {\let\atemptitle\relax}%
274             {%
275                 \def\atemptitle{\mdf@theoremseparator%
276                     \mdf@theoremspace%
277                     \mdf@theoremtitlefont%
278                     \LWR@textcurrentfont{##1}}% lwarp
279                     \mdf@thm@caption{#2}{#4}{\csname the#2\endcsname{##1}}%
280                 }
281             \begin{mdframed}[#1,frametitle={\strut#4\ \csname the#2\endcsname%
```

```

282                                     \atemptitle}]}%
283         {\end{mdframed}}%
284         \newenvironment{#2*}[1][]{%
285             \ifstrempty{##1}{\let\atemptitle\relax}{\def\atemptitle{:\ \ ##1}}%
286             \begin{mdframed}[#1,frametitle={\strut#4\atemptitle}]}%
287             {\end{mdframed}}%
288         }%
289         \BeforeBeginEnvironment{#2}{\renewcommand{\LWR@mdthisenv}{md#2}}% l warp
290         \BeforeBeginEnvironment{#2*}{\renewcommand{\LWR@mdthisenv}{md#2}}% l warp
291     }%
292 }

```

\newmdtheoremenv [⟨1: mdframed-options⟩] {⟨2: envname⟩} [⟨3: numberedlike⟩] {⟨4: caption⟩} [⟨5: within⟩]

Modified from the original to remember the environment.

```

293 \DeclareDocumentCommand\newmdtheoremenv{O{} m o m o }{%
294     \ifboolexpr{ test {\IfNoValueTF {#3}} and test {\IfNoValueTF {#5}} }{%
295         {\newtheorem{#2}{#4}}%
296         {%
297             \IfValueT{#3}{\newtheorem{#2}[#3]{#4}}%
298             \IfValueT{#5}{\newtheorem{#2}{#4}[#5]}%
299         }%
300     \BeforeBeginEnvironment{#2}{%
301         \renewcommand{\LWR@mdthisenv}{md#2}}%
302     \begin{mdframed}[#1]}%
303     \AfterEndEnvironment{#2}{%
304     \end{mdframed}}%
305 }

```

File 249 **l warp-media9.sty**

§ 349 Package **media9**

Pkg media9 **media9** is emulated.

The packages **multimedia**, **movie15**, and **media9** are supported.

HTML5 `<audio>` and `<video>` objects are created for `.mp3` and `.mp4` files.

HTML5 `<embed>` objects are created for `http` and `ftp` links.

`\href` links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by **HTML5**.)

For **media9**, a multimedia object is inserted for each `addresource=`, as well as each `flashvars source=` and `src=`. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside `\warpprintonly` or the `warprint` environment.

Each `HTML` multimedia object includes the poster text, except for `<embed>` objects. For `movie15`, the `text` option is supported to specify the poster text.

The `width`, `height`, and `totalheight` options are supported. The `HTML` object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

`media9 \addmediapath` is supported. It is assumed that the same path structure will exist for the `HTML` document.

`HTML5` media controls are always specified for each `<audio>` and `<video>` object.

`media9` slideshows are not supported.

`\hyperlink{movie}`, `\movieref`, and `\mediabutton` are not supported.

3D objects are not supported.

If using a `YOUTUBE™` video, use an “embedded” URL with `.../embed/...` instead of `.../v/...`

⚠ & in a URL Many special characters are converted to regular catcode 12 characters for use inside a URL. `&` is used in the flash variables fields, which are split with `xparse \SplitList`, which does not seem to work with a catcode 12 divider token, so `&` is not converted to catcode 12, and will not work in a URL with `media9`. Using `&` in a URL in a `flashvars` field may also cause parsing problems with print output, as well.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{media9}[2019/02/21]

2 \LWR@origRequirePackage{lwarp-common-multimedia}
3
4 \RequirePackage{xkeyval}
```

`\addmediapath {<path>}`

Supported.

```

5 \newcommand*{\LWR@medianine@path}{}%
6
7 \newcommand*{\addmediapath}[1]{\appto{\LWR@medianine@path}{#1}}%
```

The options and poster text are reused in several places.

```

8 \newcommand*{\LWR@medianine@postertext}{}%
9 \newcommand*{\LWR@medianine@options}{}%
```

Each `addrresource` can generate a multimedia object.

```

10 \define@key{LWR@medianine}{addrresource}{%
11   \expandafter\expandafter[\expandafter\expandafter[\LWR@medianine@options]
12   {\LWR@medianine@postertext}
13   {#1}
14 }
```

Each `flashvars` source can generate a multimedia object.

```

15 \newcommand*{\LWR@medianine@flashvarsb}[1]{%
16   \IfBeginWith{#1}{source} {%
17     \StrGobbleLeft{#1}{7}[\LWR@tempone]%
18     \expandafter\lwr@multimedia\expandafter[\LWR@medianine@options]%
19       {\LWR@medianine@postertext}%
20       {\LWR@tempone}%
21   }{}%
22   \IfBeginWith{#1}{src} {%
23     \StrGobbleLeft{#1}{4}[\LWR@tempone]%
24     \expandafter\lwr@multimedia\expandafter[\LWR@medianine@options]%
25       {\LWR@medianine@postertext}%
26       {\LWR@tempone}%
27   }{}%
28 }
29
30 \NewDocumentCommand{\LWR@medianine@flashvars}{ >{\SplitList{&}} m }{%
31   \ProcessList {#1}{\LWR@medianine@flashvarsb}%
32 }
33
34 \define@key{\LWR@medianine}{flashvars}{%
35   \LWR@medianine@flashvars{#1}%
36 }

```

`\includemedia` [*<options>*] {*<poster text>*} {*<file or URL>*}

```

37 \newcommand*{\lwr@includemediab}[3][]{%
38   \let\input@path\lwr@medianine@path%
39   \renewcommand*{\lwr@medianine@options}{#1}%
40   \renewcommand*{\lwr@medianine@postertext}{#2}%
41   \setkeys{\lwr@medianine}{#1}%
42   \IfBeginWith{#3}{http}{\lwr@multimedia[#1]{#2}{#3}}{%
43     \IfBeginWith{#3}{HTTP}{\lwr@multimedia[#1]{#2}{#3}}{%
44       \IfBeginWith{#3}{ftp}{\lwr@multimedia[#1]{#2}{#3}}{%
45         \IfBeginWith{#3}{FTP}{\lwr@multimedia[#1]{#2}{#3}}{%
46           }}}{%
47   \endgroup%
48 }
49
50 \newrobustcmd*{\includemedia}{%
51   \begingroup%
52   \lwr@linkmediacatcodes%
53   \lwr@includemediab%
54 }

```

`\mediabutton` [*<options>*] {*<text>*}

Ignored.

```
55 \newcommand*{\mediabutton}[2][]{}
```

File 250 l warp-memhfixc.sty**§ 350 Package memhfixc**

Pkg memhfixc memhfixc is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{memhfixc}[2013/05/30]

File 251 l warp-metalogo.sty**§ 351 Package metalogo**

(Emulates or patches code by ANDREW GILBERT MOSCHOU.)

Pkg metalogo metalogo is used in print mode, and emulated in HTML.

for HTML output: 1 \LWR@ProvidesPackagePass{metalogo}[2010/05/29]

```
2 \newcommand*{\LWR@HTML@setlogokern}[2]{}
3 \newcommand*{\LWR@HTML@setlogodrop}[2][XeTeX]{}
4 \newcommand*{\LWR@HTML@setLaTeXa}[1]{}
5 \newcommand*{\LWR@HTML@setLaTeXee}[1]{}
6 \newcommand*{\LWR@HTML@seteverylogo}[1]{}
7 \newcommand*{\LWR@HTML@everylogo}[1]{}
8
9 \LWR@formatted{setlogokern}
10 \LWR@formatted{setlogodrop}
11 \LWR@formatted{setLaTeXa}
12 \LWR@formatted{setLaTeXee}
13 \LWR@formatted{seteverylogo}
14 \LWR@formatted{everylogo}
```

File 252 l warp-metalogox.sty**§ 352 Package metalogox**

(Emulates or patches code by BRIAN DUNN.)

Pkg metalogox metalogox is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{metalogox}[2019/01/20]

\AtBeginDocument, adjust the logo setting according to the font which is active at that moment.

```

2 \AtBeginDocument{
3   \let\LWR@metalogox@currentformatting\LWR@formatting
4   \renewcommand*\LWR@formatting{\print}%
5   \autoadjustlogos*
6   \let\LWR@formatting\LWR@metalogox@currentformatting
7 }

```

File 253 **l warp-mhchem.sty**

§ 353 Package **mhchem**

(Emulates or patches code by MARTIN HENSEL.)

Pkg **mhchem** **mhchem** is patched for use by **l warp**.

without MATHJAX Without MATHJAX, **mhchem** expressions are converted to SVG math. Inline expressions use hashed filenames to allow reuse, and assume that any **mhchem** options are global.

MATHJAX with mhchem extension For MATHJAX, the **mhchem** extension is used if the **mhchem** expression is used inside a math expression:

$\text{\ce{C6H5-CHO}}$

not inside math

If *not* used inside a math expression, **l warp** converts standalone **mhchem** expressions into SVG math images.

MATHJAX without mhchem extension If the MATHJAX **mhchem** extension is not used, expressions inside math must be placed between **\displaymathother** and **\displaymathnormal**:

$$\displaymathother \\[\text{\ce{ ... }}] \quad \dots \quad \$ \text{\ce { ... }} \$$$

$$\displaymathnormal$$

When producing HTML output without the MATHJAX **mhchem** extension, **l warp** does not support the use of nested dollar signs in **mhchem** expressions.

For some examples from the **mhchem** manual, change as follows:

$\text{\ce{NaOH(aq,$\infty)}}$$	% old
$\text{\ce{NaOH(aq,\infty)}}$$	% new
$\text{\ce{Fe(CN)_{\frac{6}{2}}}}$$	% old
$\text{\ce{Fe(CN)_{\frac{6}{2}}}}$$	% new
$\text{\ce{NO_{x}}} $$	% old
$\text{\ce{NO_x}} $$	% new
$\text{\ce{NO_{x}}}$$	% old
$\text{\ce{NO_{x}}}$$	% new
$\text{\ce{$cis$[-][PtCl2(NH3)2]}}$$	% old
$\text{\ce{$\mathit{cis}$[-][PtCl2(NH3)2]}}$$	% new

for HTML output: 1 \LWR@ProvidesPackagePass{mhchem}[2018/06/22]

The original definition of \ce:

```
2 \LetLtxMacro{\LWR@mhchem@origce}\ce
```

The new definition, called from the new \ce after math shift is set. The starred \teximage uses a hashed filename for the svg image. The alt tag is set to the mhchem expression.

```
3 \newcommand{\LWR@mhchem@HTML@ce}[1]{%
4 \LWR@findcurrenttextcolor% sets \LWR@tempcolor
5 \ifbool{\LWR@xfakebold}{%
6   {\def{\LWR@tempone{Y}}{%
7   {\def{\LWR@tempone{N}}{%
8 \begin{teximage}*[{\textbackslash ce\{\LWR@HTMLsanitize{\#1}\}}]*%
9   [%
10     FM\LWR@f@family%
11     SR\LWR@f@series%
12     SH\LWR@f@shape%
13     SHC\LWR@f@shapecaps%
14     CL\LWR@tempcolor%
15     FB\LWR@tempone{xfakebold}%
16   ]%
17 \LWR@setcurrentfont%
18 \LWR@mhchem@origce{\#1}%
19 \end{teximage}%
20 \endgroup%
21 \addtocounter{\LWR@mhchem@cedepth}{-1}%
22 }
```

Only set math shift if outer depth:

```
23 \newcounter{\LWR@mhchem@cedepth}
24 \setcounter{\LWR@mhchem@cedepth}{0}
```

The new \ce. Sets math shift then continues.

```
25 \renewcommand{\ce}{%
26 \begingroup%
27 \ifnumequal{\value{\LWR@mhchem@cedepth}}{0}{%
28   \catcode`\$=3% math shift%
29 }{}%
30 \addtocounter{\LWR@mhchem@cedepth}{1}%
31 \LWR@mhchem@HTML@ce%
32 }
```

The original definition of \cesplit:

```
33 \LetLtxMacro{\LWR@mhchem@origcesplit}\cesplit
```

The new definition, called from the new \cesplit after math shift is set. The starred `\teximage` uses a hashed filename for the svg image. The alt tag is set to the `mhchem` expression.

```

34 \newcommand*{\LWR@mhchem@HTML@cesplit}[2]
35 {%
36 \LWR@findcurrenttextcolor% sets \LWR@tempcolor
37 \ifbool{\LWR@xfakebold}{%
38   {\def\LWR@tempone{Y}}{%
39   {\def\LWR@tempone{N}}{%
40 \begin{teximage}*[\\textbackslash cesplit\{\LWR@HTMLsanitize{#2}\}]*{%
41   [%
42     FM\!\LWR@f@family%
43     SR\!\LWR@f@series%
44     SH\!\LWR@f@shape%
45     SHC\!\LWR@f@shapecaps%
46     CL\!\LWR@tempcolor%
47     FB\!\LWR@tempone% xfakebold
48   ]%
49 \LWR@setcurrentfont%
50 \LWR@mhchem@origcesplit{#1}{#2}%
51 \end{teximage}%
52 \endgroup%
53 }}}
```

Only set math shift if outer depth:

```

54 \newcounter{\LWR@mhchem@cesplitdepth}
55 \setcounter{\LWR@mhchem@cesplitdepth}{0}
```

The new \cesplit. Sets math shift then continues.

```

56 \renewcommand{\cesplit}{%
57 \begingroup%
58 \ifnumequal{\value{\LWR@mhchem@cesplitdepth}}{0}{%
59   \catcode`\$=3% math shift
60 }{%
61 \addtocounter{\LWR@mhchem@cesplitdepth}{1}%
62 \LWR@mhchem@HTML@cesplit%
63 }}
```

Resore originals inside a `\teximage`:

```

64 \appto{\LWR@restoreorigformatting}{%
65 \LetLtxMacro{\ce}{\LWR@mhchem@origce}%
66 \LetLtxMacro{\cesplit}{\LWR@mhchem@origcesplit}%
67 }
```

File 254 l warp-microtype.sty**§ 354 Package microtype**

(Emulates or patches code by R SCHLICHT.)

Pkg **microtype** **microtype** is pre-loaded by **l warp**. All user options and macros are ignored and disabled.

for HTML output: Discard all options for **l warp-microtype**:

```
1 \LWR@ProvidesPackageDrop{microtype}[2018/01/14]

2 \DeclareDocumentCommand{\DeclareMicrotypeSet}{o m m} {}
3 \DeclareDocumentCommand{\UseMicrotypeSet}{o m} {}
4 \DeclareDocumentCommand{\DeclareMicrotypeSetDefault}{o m} {}
5 \DeclareDocumentCommand{\SetProtrusion}{o m m} {}
6 \DeclareDocumentCommand{\SetExpansion}{o m m} {}
7 \DeclareDocumentCommand{\SetTracking}{o m m} {}
8 \DeclareDocumentCommand{\SetExtraKerning}{o m m} {}
9 \DeclareDocumentCommand{\SetExtraSpacing}{o m m} {}
10 \DeclareDocumentCommand{\DisableLigatures}{o m} {}
11 \DeclareDocumentCommand{\DeclareCharacterInheritance}{o m m} {}
12 \DeclareDocumentCommand{\DeclareMicrotypeVariants}{m} {}
13 \DeclareDocumentCommand{\DeclareMicrotypeAlias}{m m} {}
14 \DeclareDocumentCommand{\LoadMicrotypefile}{m} {}
15 \DeclareDocumentCommand{\DeclareMicrotypeBabelHook}{m m} {}
16 \DeclareDocumentCommand{\microtypsetup}{m} {}
17 \DeclareDocumentCommand{\microtypecontext}{m} {}
18 \DeclareDocumentCommand{\textmicrotypecontext}{m m} {#2}
19 @ifpackageloaded{letterspace}{\let\MT@textls\relax}%
20 \DeclareDocumentCommand{\lsstyle}{}{ }
21 \DeclareDocumentCommand{\textls}{o +m} {}
22 \DeclareDocumentCommand{\lslig}{m} {#1}
23 }
24 \def\DeclareMicrotypeSet#1{\gobbletwo}
25 \def\DeclareMicrotypeVariants#1{\gobble}
26 @onlypreamble\DeclareMicrotypeSet
27 @onlypreamble\UseMicrotypeSet
28 @onlypreamble\DeclareMicrotypeSetDefault
29 @onlypreamble\DisableLigatures
30 @onlypreamble\DeclareMicrotypeVariants
31 @onlypreamble\DeclareMicrotypeBabelHook
```

File 255 l warp-midfloat.sty**§ 355 Package midfloat**

(Emulates or patches code by SIGITAS TOLUŠIS.)

Pkg midfloat midfloat is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{midfloat}[2012/05/29]

```
2 \newenvironment{strip}[1][]{\{}{\}}
3 \newskip\stripsep
```

File 256 **l warp-midpage.sty**

§ 356 Package **midpage**

Pkg midpage midpage is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{midpage}[2009/09/03]

```
2 \newenvironment{midpage}
3 {\begin{BlockClass}[%
4   \LWR@print@mbox{margin-top:6ex} ; \LWR@print@mbox{margin-bottom:6ex}%
5 ]{midpage}}
6 {\end{BlockClass}}
```

File 257 **l warp-minibox.sty**

§ 357 Package **minibox**

(Emulates or patches code by WILL ROBERTSON.)

Pkg minibox minibox is patched for use by l warp.

Due to HTML limitations regarding paragraphs and <div>s, miniboxes inline with other text will appear on their own line.

for HTML output: 1 \LWR@ProvidesPackagePass{minibox}[2013/06/21]

```
2 \ExplSyntaxOn
3 \newcommand{\LWR@HTML@minibox}[2][]{%
4   \LWR@stoppars%
5   \group_begin:
6   \keys_set:nn {minibox} {#1}
7   \bool_if:NTF \l_minibox_frame_bool
8   {
9     \setlength\fboxrule{\l_minibox_rule_dim}
10    \setlength\fboxsep{\l_minibox_pad_dim}
11    \fboxBlock{%
12      \begin{tabular}[\l_minibox_tabular_valign_tl]%
13        {\l_minibox_tabular_preamble_tl}%
14        {#2}%
15      \end{tabular}%
16    }%
}
```

```

17      }
18      {
19          \begin{BlockClass}[display:inline-block]{minibox}
20          \begin{tabular}[\l_minibox_tabular_valign_tl]%
21              {\l_minibox_tabular_preamble_tl}
22              {#2}
23          \end{tabular}
24      \end{BlockClass}
25  }
26  \group_end:
27  \LWR@startpars%
28 }
29 \ExplSyntaxOff
30
31 \LWR@formatted{minibox}

```

File 258 **lwarp-minitoc.sty**

§ 358 Package **minitoc**

Pkg **minitoc** **minitoc** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop[minitoc][2018/07/12]

mtcoff disables **minitoc**.

2 \usepackage{mtcoff}

File 259 **lwarp-mismath.sty**

§ 359 Package **mismath**

(Emulates or patches code by ANTOINE MISSIER.)

Pkg **mismath** **mismath** is patched for **SVG** math, and emulated for **MATHJAX**.

⚠ **MATHJAX** \number, \inumber, \jnumber, and \pinumber are ignored for **MATHJAX**, except that \itpi is made available as a clone of \pi.

For **MATHJAX**, \boldvect and \arrowvect are honored if in the preamble.

If \boldvectcommand is set to \mathbf in the preamble, it will be used for **MATHJAX**, otherwise it will default to \mathit. \boldvectcommand may also be set with \CustomizeMathJax in the preamble. See section 8.7.5. Note that as of this writing there is not a bold italic font across all **MATHJAX** fonts.

If \probastyle is set to \mathbb in the preamble, it will be used for **MATHJAX**, otherwise it will default to \mathrm. \probastyle may be set with \CustomizeMathJax in the preamble.

If `\mathset` is set to `\mathbb` in the preamble, it will be used for MATHJAX, otherwise it will default to `\mathbf`. `\mathset` may be set with `\CustomizeMathJax` in the preamble.

for HTML output: 1 \LWR@ProvidesPackagePass{mismath}[2019/12/27]

For MATHJAX, used in the HTML comment before the environment.

```
2 \ifbool{mathjax}{%
3     \RenewEnviron{mathcols}{%
4         \preto{\BODY}{\begin{aligned}\displaystyle}
5         \appto{\BODY}{\end{aligned}}
6         \expandafter{(\BODY\}
7     }
8 }% mathjax
```

For svg math. The `lateximage` restores the original defintion of the `math` environment.

```
9 {%
10    \renewenvironment{mathcols}{%
11        \begin{lateximage}
12        \begin{math}
13        \begin{aligned}\displaystyle
14    }{
15        \end{aligned}%
16        \end{math}
17        \end{lateximage}
18    }
19 }% svg
20
21 \renewcommand{\changecol}{%
22     \end{aligned} \qquad
23     \begin{aligned}\displaystyle
24 }
25
26 \begin{warpMathJax}
27 \CustomizeMathJax{\newcommand{\mathup}[1]{\mathrm{#1}}}
28 \CustomizeMathJax{\newcommand{\mathbf}[1]{\mathrm{#1}}}
29 \CustomizeMathJax{\newcommand{\mathit}[1]{\mathrm{#1}}}
30 \CustomizeMathJax{\newcommand{\mathjmath}[1]{\mathrm{#1}}}
31
32 \CustomizeMathJax{\newcommand{\boldvect}{}}
33 \CustomizeMathJax{\newcommand{\arrowvect}{}}
34 \CustomizeMathJax{\newcommand{\pinumber}[1][]{#1}}
35 \CustomizeMathJax{\newcommand{\hvect}[1]{\vec{\vphantom{h}}{#1}}}
36 \CustomizeMathJax{\newcommand{\hvec}[1]{\vec{\vphantom{t}}{#1}}}
37 \CustomizeMathJax{%
38     \newcommand{\norm}[1]{\left\| #1 \right\|}}
39 }
40 \CustomizeMathJax{\newcommand{\di}{\mathop{}\!\mathrm{d}}}
41
42 \CustomizeMathJax{\newcommand{\operatorname{P}}{\operatorname{probastyle{P}}}}
43 \CustomizeMathJax{\newcommand{\operatorname{E}}{\operatorname{probastyle{E}}}}
44 \CustomizeMathJax{\newcommand{\operatorname{V}}{\operatorname{probastyle{V}}}}
45 \CustomizeMathJax{\newcommand{\operatorname{Par}}{\operatorname{unicode{x00B6}}}}
46
```

```
47 \CustomizeMathJax{\newcommand{\adj}{\mathrm{adj}}}
48 \CustomizeMathJax{\newcommand{\Aut}{\mathrm{Aut}}}
49 \CustomizeMathJax{\newcommand{\Conv}{\mathrm{Conv}}}
50 \CustomizeMathJax{\newcommand{\cov}{\mathrm{cov}}}
51 \CustomizeMathJax{\newcommand{\Cov}{\mathrm{Cov}}}
52 \CustomizeMathJax{\newcommand{\curl}{\operatorname{\mathit{vect}}{\mathit{curl}}}}
53 \CustomizeMathJax{\newcommand{\divg}{\mathrm{div}}}
54 \CustomizeMathJax{\newcommand{\End}{\mathrm{End}}}
55
56 \CustomizeMathJax{\newcommand{\erf}{\mathrm{erf}}}
57 \CustomizeMathJax{\newcommand{\grad}{\operatorname{\mathit{vect}}{\mathit{grad}}}}
58 \CustomizeMathJax{\newcommand{\id}{\mathrm{id}}}
59 \CustomizeMathJax{\newcommand{\Id}{\mathrm{Id}}}
60 \CustomizeMathJax{\newcommand{\im}{\mathrm{im}}}
61 \CustomizeMathJax{\let\oldIm\Im}
62 \CustomizeMathJax{\renewcommand{\Im}{\operatorname{\mathit{Im}}}}
63 \CustomizeMathJax{\newcommand{\lb}{\mathrm{lb}}}
64 \CustomizeMathJax{\newcommand{\lcm}{\mathrm{lcm}}}
65
66 \CustomizeMathJax{\newcommand{\rank}{\mathrm{rank}}}
67 \CustomizeMathJax{\let\oldRe\Re}
68 \CustomizeMathJax{\renewcommand{\Re}{\operatorname{\mathit{Re}}}}
69 \CustomizeMathJax{\newcommand{\rot}{\operatorname{\mathit{vect}}{\mathit{rot}}}}
70 \CustomizeMathJax{\newcommand{\sgn}{\mathrm{sgn}}}
71 \CustomizeMathJax{\newcommand{\spa}{\mathrm{span}}}
72 \CustomizeMathJax{\newcommand{\tr}{\mathrm{tr}}}
73 \CustomizeMathJax{\newcommand{\Var}{\mathrm{Var}}}
74 \CustomizeMathJax{\newcommand{\Zu}{\mathrm{Z}}}
75
76 \CustomizeMathJax{\newcommand{\arccot}{\mathrm{arccot}}}
77 \CustomizeMathJax{\newcommand{\sech}{\mathrm{sech}}}
78 \CustomizeMathJax{\newcommand{\csch}{\mathrm{csch}}}
79 \CustomizeMathJax{\newcommand{\arsinh}{\mathrm{arsinh}}}
80 \CustomizeMathJax{\newcommand{\arcosh}{\mathrm{arcosh}}}
81 \CustomizeMathJax{\newcommand{\artanh}{\mathrm{artanh}}}
82 \CustomizeMathJax{\newcommand{\arcoth}{\mathrm{arcoth}}}
83 \CustomizeMathJax{\newcommand{\arsech}{\mathrm{arsech}}}
84 \CustomizeMathJax{\newcommand{\arcsch}{\mathrm{arcsch}}}
85
86 \CustomizeMathJax{\newcommand{\bigO}{\mathcal{O}}}
87 \CustomizeMathJax{\newcommand{\bigo}{\mathit{O}}}
88 \CustomizeMathJax{\newcommand{\lito}{\mathit{o}}}
89
90 \CustomizeMathJax{\newcommand{\R}{\mathit{R}}}
91 \CustomizeMathJax{\newcommand{\C}{\mathit{C}}}
92 \CustomizeMathJax{\newcommand{\N}{\mathit{N}}}
93 \CustomizeMathJax{\newcommand{\Z}{\mathit{Z}}}
94 \CustomizeMathJax{\newcommand{\Q}{\mathit{Q}}}
95 \CustomizeMathJax{\newcommand{\F}{\mathit{F}}}
96 \CustomizeMathJax{\newcommand{\K}{\mathit{K}}}
97
98 \CustomizeMathJax{\newcommand{\ds}{\displaystyle}}
99 \CustomizeMathJax{\newcommand{\dlim}{\lim\limits}}
100 \CustomizeMathJax{\newcommand{\dsum}{\sum\limits}}
101 \CustomizeMathJax{\newcommand{\dprod}{\prod\limits}}
```

```

102 \CustomizeMathJax{\newcommand{\dcup}{\bigcup\limits}}
103 \CustomizeMathJax{\newcommand{\dcap}{\bigcap\limits}}
104 \CustomizeMathJax{\newcommand{\lbar}{\overline}}
105 \CustomizeMathJax{\newcommand{\hlbar}[1]{\overline{\vphantom{h}\#1}}}
106 \CustomizeMathJax{\newcommand{\eqdef}{\stackrel{\mathrm{def}}{=}}}
107 \CustomizeMathJax{\newcommand{\unbr}{\underbrace}}
108 \CustomizeMathJax{\newcommand{\iif}{\text{if and only if } } }
109
110 \CustomizeMathJax{\newcommand{\mul}{\mathord{\times}}}
111 \CustomizeMathJax{\newcommand{\then}{\rightarrow \Longrightarrow \mbox{} } }
112 \CustomizeMathJax{\newcommand{\txt}[1]{\quad\text{#1}\quad}}
113 \CustomizeMathJax{\newcommand{\paren}[1]{\left(\right)}}
114 \CustomizeMathJax{\newcommand{\pow}[2]{\left( #1 \right)^{\!#2}}}
115 \CustomizeMathJax{\newcommand{\abs}[1]{\left| #1 \right|}}
116 \CustomizeMathJax{\newcommand{\lfrac}[2]{\frac{\!#1\!}{\!#2\!}}}
117
118 \CustomizeMathJax{\newenvironment{system}[1][l]%
119   {\left\{\begin{array}{@{.15em}#1@{}}}
120   {\end{array}\right.} .}
121 }
122
123 \CustomizeMathJax{\newenvironment{spmatrix}%
124   {\left(\begin{smallmatrix}}
125   {\end{smallmatrix}\right)}
126 }
127
128 \CustomizeMathJax{%
129   \newenvironment{mathcols}%
130     {\begin{aligned}\displaystyle}
131     {\end{aligned}}
132 }
133 \CustomizeMathJax{\newcommand{\changecol}{\end{aligned}\qquad\begin{aligned}}}
```

User-adjustable settings, detected if in the preamble.

```

134 \AtBeginDocument{
135 \ifdef{\itpi}%
136   \CustomizeMathJax{\let\itpi\pi}
137 }%
138 \ifdefstring{\boldvectcommand}{\mathbf}%
139   \CustomizeMathJax{\newcommand{\boldvectcommand}[1]{\mathbf{#1}}}
140 }%
141   \CustomizeMathJax{\newcommand{\boldvectcommand}[1]{\boldsymbol{#1}}}
142 }%
143 \ifbool{arrowvect}%
144   \CustomizeMathJax{\newcommand{\vect}[1]{\overrightarrow{#1}}}
145 }%
146   \CustomizeMathJax{\newcommand{\vect}[1]{\boldsymbol{\mathrm{#1}}}}
147 }%
148 \ifdefstring{\probastyle}{\mathbb}%
149   \CustomizeMathJax{\newcommand{\probastyle}[1]{\mathbb{#1}}}
150 }%
151   \CustomizeMathJax{\newcommand{\probastyle}[1]{\mathrm{#1}}}
152 }%
153 \ifdefstring{\mathset}{\mathbb}{
```

```
154     \CustomizeMathJax{\newcommand{\mathset}[1]{\mathbb{#1}}}
155 }{
156     \CustomizeMathJax{\newcommand{\mathset}[1]{\mathbf{#1}}}
157 }
158 }
159 \end{warpMathJax}
```

File 260 l warp-morefloats.sty**§ 360 Package morefloats**

Pkg morefloats morefloats is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{morefloats}[2015/07/22]

File 261 l warp-moreverb.sty**§ 361 Package moreverb**

(Emulates or patches code by ROBIN FAIRBAIRNS.)

Pkg moreverb moreverb is supported with some patches.

for HTML output: 1 \begin{warpHTML}

```
2 \LWR@ProvidesPackagePass{moreverb}[2008/06/03]

3 \BeforeBeginEnvironment{verbatimtab}{%
4 \LWR@forcenewpage
5 \LWR@atbeginverbatim{3}{Verbatim}%
6 }
7 \AfterEndEnvironment{verbatimtab}{%
8 \LWR@afterendverbatim{1}%
9 }
10
11
12 \LetLtxMacro{\LWRMV@orig@verbatimtabininput}{\verbatimtabininput}
13
14 \renewcommand{@verbatimtabininput}[2][]{%
15 \LWR@forcenewpage
16 \LWR@atbeginverbatim{3}{Verbatim}%
17 \LWRMV@orig@verbatimtabininput[#1]{#2}%
18 \LWR@afterendverbatim{1}%
19 }
20
21 \BeforeBeginEnvironment{listing}{%
22 \LWR@forcenewpage
23 \LWR@atbeginverbatim{3}{programlisting}%
24 }
25
```

```
26 \AfterEndEnvironment{listing}{%
27 \LWR@afterendverbatim{1}%
28 }
29
30 \BeforeBeginEnvironment{listingcont}{%
31 \LWR@forcenewpage
32 \LWR@atbeginverbatim{3}{programlisting}%
33 }
34
35 \AfterEndEnvironment{listingcont}{%
36 \LWR@afterendverbatim{1}%
37 }

38 \LetLtxMacro\LWRMV@{listinginput@\listinginput
39
40 \renewcommand{@listinginput}[3][]{
41 \LWR@forcenewpage
42 \LWR@atbeginverbatim{3}{programlisting}%
43 \LWRMV@{listinginput[#1]{#2}{#3}%
44 \LWR@afterendverbatim{1}%
45 }
46
47
48 \renewenvironment*{boxedverbatim}
49 {
50 \LWR@forcenewpage
51 \LWR@atbeginverbatim{3}{boxedverbatim}%
52 \verbatim%
53 }
54 {
55 \endverbatim%
56 \LWR@afterendverbatim{1}%
57 }

58 \end{warpHTML}
```

File 262 lwarp-movie15.sty

§ 362 Package **movie15**

Pkg movie15 movie15 is emualted.

The packages `multimedia`, `movie15`, and `media9` are supported.

`HTML5 <audio>` and `<video>` objects are created for `.mp3` and `.mp4` files.

`HTML5 <embed>` objects are created for `http` and `ftp` links.

`\href` links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by `HTML5`.)

For **media9**, a multimedia object is inserted for each **addresource=**, as well as each **flashvars source=** and **src=**. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside **\warpprintonly** or the **warpprint** environment.

Each **HTML** multimedia object includes the poster text, except for **<embed>** objects. For **movie15**, the **text** option is supported to specify the poster text.

The **width**, **height**, and **totalheight** options are supported. The **HTML** object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

media9 \addmediapath is supported. It is assumed that the same path structure will exist for the **HTML** document.

HTML5 media controls are always specified for each **<audio>** and **<video>** object.

media9 slideshows are not supported.

\hyperlinkmovie, **\movieref**, and **\mediabutton** are not supported.

3D objects are not supported.

If using a **YOUTUBE™** video, use an “embedded” URL with **.../embed/...** instead of **.../v/...**

for HTML output:

```
1 \LWR@ProvidesPackageDrop{movie15}[2012/05/16]
2 \LWR@origRequirePackage{lwarp-common-multimedia}
3
4 \RequirePackage{xkeyval}
5
6 \newcommand*{\LWR@moviefifteen@text}{}%
7
8 \define@key{\LWR@moviefifteen}{text}{\renewcommand{\LWR@moviefifteen@text}{#1}}
9
10 \newcommand*{\LWR@includemovieb}[4][]{%
11     \renewcommand{\LWR@moviefifteen@text}{(multimedia)}
12     \setkeys{\LWR@moviefifteen}{#1}%
13     \LWR@multimediab[#1,width=#2,height=#3]{\LWR@moviefifteen@text}{#4}%
14 }
15
16 \newrobustcmd*{\includemovie}{%
17     \begingroup%
18     \LWR@linkmediacatcodes%
19     \LWR@includemovieb%
20 }
21
22
23 \newcommand*{\movieref}[3][]{}
24
25 \LetLtxMacro\movie\LWR@multimedia
26 % \LetLtxMacro\sound\LWR@multimedia% not in media15
27
```

```
28 \newcommand{\hyperlinkmovie}[3][]{}

---


```

File 263 **l warp-mparhack.sty**

§ 363 Package **mparhack**

Pkg mparhack mparhack is ignored.

for HTML output: Discard all options for l warp-mparhack:

```
1 \LWR@ProvidesPackageDrop{mparhack}[2005/04/17]

---


```

File 264 **l warp-multicap.sty**

§ 364 Package **multicap**

Pkg multicap multicap is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{multicap}[2002/05/04]

```
2 \newcommand*{\mfcaption}{\captionof{figure}}
3 \newcommand*{\mtcaption}{\captionof{table}}
4 \newcounter{mcapsize}
5 \newcounter{mcapskip}
6 \newlength{\abvmcapskip}
7 \newlength{\blwmcapskip}

---


```

File 265 **l warp-multicol.sty**

§ 365 Package **multicol**

(Emulates or patches code by FRANK MITTELBACH.)

Pkg multicol multicol is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{multicol}[2018/12/27]

Multicols are converted into a 1–3 column display, browser-supported.

The optional multicols heading is placed inside a <div> of class multicolshading.

The content is placed inside a <div> of class multicols.

```
2 \begin{warpHTML}
```

```
Env multicols * {\langle numcols \rangle} [\langle heading \rangle]
3 \NewDocumentEnvironment{multicols}{s m o}
```

HTML <div> class to contain everything:

```
4 {
5   \LWR@forcenewpage
6   \BlockClass{multicols}
```

Optional HTML <div> class for the heading:

```
7   \IfValueT{#3}{\begin{BlockClass}{multicolsheading}#3\end{BlockClass}}%
```

Change \linewidth to compensate for expected size:

```
8   \setlength{\linewidth}{\linewidth/#2}
```

Locally force any minipages to be fullwidth:

```
9   \booltrue{\LWR@forceminipagefullwidth}
10 }
```

When done with the environment, close the <div>:

```
11 {\endBlockClass}
```

Emulated null functions which are not used in HTML:

```
12 \newcommand*\columnbreak(){}
13 \newcommand*\RLmulticolcolumns(){}
14 \newcommand*\LRmulticolcolumns(){}
15
16 \newlength{\premulticols}
17 \newlength{\postmulticols}
18 \newlength{\multicolsep}
19 \newlength{\multicolbaselineskip}
20 \newlength{\multicoltolerance}
21 \newlength{\multicolpretolerance}
22 \newcommand*\columnseprulecolor{\normalcolor}
23 \newcounter{columnbadness}
24 \newcounter{finalcolumnbadness}
25 \newcounter{collectmore}
26 \newcounter{unbalance}
27 \newlength{\multicolovershoot}
28 \newlength{\multicolundershoot}

29 \NewDocumentCommand{\docolaction}{s o m m}{%
30   \IfValueTF{#2}{#2}{#3}{%
31 }

32 \end{warpHTML}
```

File 266 **lwarp-multicolrule.sty**

§ 366 Package **multicolrule**

Pkg **multicolrule** **multicolrule** is ignored.

for HTML output:

```
1 \RequirePackage{multicol}
2
3 \LWR@ProvidesPackageDrop{multicolrule}[2019/01/01]

4 \newcommand*\SetMCRule[1]{}
5 \NewDocumentCommand{\DeclareMCRulePattern}{m m}{}

---


```

File 267 **l warp-multimedia.sty**

§ 367 Package **multimedia**

Pkg **multimedia** **multimedia** is emulated.

The packages **multimedia**, **movie15**, and **media9** are supported.

HTML5 `<audio>` and `<video>` objects are created for `.mp3` and `.mp4` files.

HTML5 `<embed>` objects are created for `http` and `ftp` links.

`\href` links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by **HTML5**.)

For **media9**, a multimedia object is inserted for each `addresource=`, as well as each `flashvars source=` and `src=`. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside `\warpprintonly` or the `warpprint` environment.

Each **HTML** multimedia object includes the poster text, except for `<embed>` objects. For **movie15**, the `text` option is supported to specify the poster text.

The `width`, `height`, and `totalheight` options are supported. The **HTML** object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

media9 `\addmediopath` is supported. It is assumed that the same path structure will exist for the **HTML** document.

HTML5 media controls are always specified for each `<audio>` and `<video>` object.

media9 slideshows are not supported.

`\hyperlink{movie}`, `\movieref`, and `\mediabutton` are not supported.

3D objects are not supported.

If using a **YOUTUBE™** video, use an “embedded” URL with `.../embed/...` instead of `.../v/...`

for **HTML output**: 1 \LWR@ProvidesPackageDrop{multimedia}[2012/05/02]

```

2 \LWR@origRequirePackage{lwarp-common-multimedia}
3
4 \LetLtxMacro\movie\LWR@multimedia
5 \LetLtxMacro\sound\LWR@multimedia
6
7 \newcommand{\hyperlinkmovie}[3][]{}

```

File 268 **lwarp-multiobjective.sty**

§ 368 Package **multiobjective**

(Emulates or patches code by LUIS MARTÍ.)

Pkg multiobjective multiobjective is used as-is for SVG math, and is emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{multiobjective}[2008/08/19]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\dom}{\prec}}
4 \CustomizeMathJax{\newcommand{\negdom}{\not\prec}}
5 \CustomizeMathJax{\newcommand{\weakdom}{\preccurlyeq}}
6 \CustomizeMathJax{\newcommand{\negweakdom}{\not\preccurlyeq}}
7 \CustomizeMathJax{\newcommand{\strictdom}{\prec!\!|\!\!\!\prec}}
8 \CustomizeMathJax{\newcommand{\negstrictdom}{\not\prec\!\!|\!\!\!\not\prec}}
9 \CustomizeMathJax{\newcommand{\multepsilondom}{\preccurlyeq_{\epsilon\cdot}}}
10 \CustomizeMathJax{\newcommand{\addiepsilondom}{\preccurlyeq_{\epsilon+}}}
11 \CustomizeMathJax{\newcommand{\better}{\triangleleft}}
12 \CustomizeMathJax{\def\vec#1{%
13   \mathchoice{%
14     {\displaystyle\boldsymbol{#1}}%
15     {\textstyle\boldsymbol{#1}}%
16     {\scriptstyle\boldsymbol{#1}}%
17     {\scriptscriptstyle\boldsymbol{#1}}%
18 }%
19 }
20 \CustomizeMathJax{\newcommand{\set}[1]{%
21   \mathchoice{%
22     {\displaystyle\mathcal{#1}}%
23     {\textstyle\mathcal{#1}}%
24     {\scriptstyle\mathcal{#1}}%
25     {\scriptscriptstyle\mathcal{#1}}%
26 }%
27 \CustomizeMathJax{\def\argmax{\mathop{\mathrm{arg}}\nolimits_{\max}}}
28 \CustomizeMathJax{\def\argmin{\mathop{\mathrm{arg}}\nolimits_{\min}}}
29 }
30 \end{warpMathJax}

```

File 269 **l warp-multirow.sty**

§ 369 Package **multirow**

(Emulates or patches code by PIET VAN OOSTRUM, ØYSTEIN BACHE, JERRY LEICHTER.)

Pkg **multirow** **multirow** is emulated during **HTML** output, and used as-is while inside a **lateximage**.

vposn

- Note that recent versions of **multirow** include a new optional **vposn** argument.
- For **multirow**, insert **\mrowcell** into any empty multi-row cells. This will be a null function for the print output, and is a placeholder for parsing the table for **HTML** output. An error is generated if this is missed.

```
... & \multirow{2}{.5in}{text} & ...
... & \mrowcell & ...
```

colored cells

- The **multirow** documentation regarding colored cells recommends using a negative number of rows. This will not work with **l warp**, so **\warpprintonly** and **\warpHTMLonly** must be used to make versions for print and **HTML**.

with \multicolumn

⚠ **\multicolumn** & **\multirow**

- See section 369.2 for **\multicolumnrow**. **l warp** does not support directly combining **\multicolumn** and **\multirow**. Use **\multicolumnrow** instead. To create a 2 column, 3 row cell:

```
\multicolumnrow{2}{c}[c]{3}[0]{1in}[0pt]{Text}
```

The two arguments for **\multicolumn** come first, followed by the five arguments for **\multirow**, many of which are optional, followed by the contents.

As per **\multirow**, skipped cells to the right of the **\multicolumnrow** statement are not included in the source code on the same line. On the following lines, **\mcolrowcell** must be used for each cell of each column and each row to be skipped. An error is generated if this is missed.

```
... & \multicolumnrow{2}{c}[c]{3}[0]{1in}[0pt]{Text} & ...
... & \mcolrowcell & \mcolrowcell & ...
... & \mcolrowcell & \mcolrowcell & ...
```

⚠ **MathJax**

- **MATHJAX** does not support **multirow**, so it is emulated to only print its text on the first row. **\multirow** works as expected in text **tabulars** or **SVG** math.

In a **lateximage**, **\LWR@restoreorigformatting** restores the original print-mode versions.

See section 72.25 for the print-mode versions.

for HTML output: Remove the placeholder macro which was used if **multirow** was not loaded:

```
1 \LetLtxMacro\multirow\relax
```

2 \LWR@ProvidesPackagePass{multirow}[2018/08/03]

\LWR@multirowborder Set to left or right to create a thick border for the cell, for use by bigdelim:

3 \newcommand{\LWR@multirowborder}{}%

§ 369.1 Multirow

```
\multirow [⟨vpos⟩] {⟨numrows⟩} [⟨bigstruts⟩] {⟨width⟩} [⟨fixup⟩] {⟨text⟩}

4 \NewDocumentCommand{\LWR@HTML@multirow}{O{c} m o m o +m}%
5 {%
6 \LWR@traceinfo{*** LWR@HTML@multirow #1 #2 #4}%

7 \booltrue{\LWR@usedmultirow}%

8 \LWR@maybenewtablerow%
9 \LWR@tabularleftedge%
```

Print the start of a new table data cell:

10 \LWR@htmlltag{td rowspan="#2" }%

The vertical alignment, if given:

```
11 \ifstreq{\#1}{c}{\style=\\"LWR@print@mbox{vertical-align:middle}" }{}%
12 \ifstreq{\#1}{b}{\style=\\"LWR@print@mbox{vertical-align:bottom}" }{}%
13 \ifstreq{\#1}{t}{\style=\\"LWR@print@mbox{vertical-align:top}" }{}%
```

The left/right border, if given:

```
14 \ifdefvoid{\LWR@multirowborder}{}{%
15 style=\\"LWR@print@mbox{border-\LWR@multirowborder:} 2px dotted black ; %
16 \LWR@print@mbox{padding-\LWR@multirowborder:} 2px" %
17 }%
```

A class adds the column spec and the rule:

18 class="td%"

Append this column's spec:

19 \LWR@getexpparray{\LWR@tablecolspec}{\arabic{\LWR@tableLaTeXcolindex}}%

If this column has a cmidrule, add “rule” to the end of the HTML class tag. Also add the vertical bar class.

```
20 \LWR@addcmidruletrim%
21 \LWR@addleftmostbartag%
22 \LWR@printbartag{\arabic{\LWR@tableLaTeXcolindex}}%
23 "%
```

```

24 \LWR@tdstartstyles%
25 \LWR@addcmidrulewidth%
26 \LWR@addcdashline%
27 \LWR@addtabularrulecolors%
28 \LWR@tdendstyles%
29 }%

```

The column's < spec:

```
30 \LWR@getexpparray{\LWR@colbeforespec}{\arabic{\LWR@tableLaTeXcolindex}}%
```

While printing the text, redefine \\ to generate a new line

```

31 \begingroup\LetLtxMacro{\\\}{\LWR@endofline}#6\endgroup%
32 \LWR@stoppars%
33 \boolfalse{\LWR@intabularmetadata}%
34 \renewcommand{\LWR@multirowborder}{}%
35 \LWR@traceinfo{*** \LWR@HTML@multirow done}%
36 }%
37
38 \LWR@formatted{multirow}

```

§ 369.2 Combined multicolumn and multirow

```
\multicolumnrow {\langle 1:cols \rangle} {\langle 2:halign \rangle} [\langle 3:vpos \rangle] {\langle 4:numrows \rangle} [\langle 5:bigstruts \rangle] {\langle 6:width \rangle} [\langle 7:fixup \rangle]
{\langle 8:text \rangle}
```

\@ifpackageloaded{multirow} determines if v2.0 or later of `multirow` was used, which included the \ProvidesPackage macro.

The HTML version follows.

\AtBeginDocument because the print version had to see if `multirow` was loaded before determining how to define \LWR@print@multicolumnrow.

```

39 \AtBeginDocument{%
40
41 \NewExpandableDocumentCommand{\LWR@HTML@multicolumnrow}{m m O{} m O{} m O{} +m}{%
42 \booltrue{\LWR@usedmultirow}%

```

Figure out how many extra HTML columns to add for @ and ! columns:

```
43 \LWR@tabularhtmlcolumns{\arabic{\LWR@tableLaTeXcolindex}}{#1}
```

Create the multicolumn/multirow tag, temporarily redefining the end of line. (Using a group caused problems with a nested tabular.

```

44 \LetLtxMacro{\\\}{\LWR@endofline}%
45 \LWR@domulticolumn[#3][#4]{#1}{\arabic{\LWR@tabhtmlcoltotal}}{#2}{#8}%
46 \LetLtxMacro{\\\}{\LWR@tabularendofline}%

```

Move to the next L^AT_EX column:

```
47 \defaddtocounter{LWR@tableLaTeXcolindex}{#1}%
48 \defaddtocounter{LWR@tableLaTeXcolindex}{-1}%
```

Skip any trailing @ or ! columns for this cell:

```
49 \booltrue{LWR@skipatbang}%
50 }%
51 \LWR@expandableformatted{multicolumnrow}%
53
54 }% \AtBeginDocument
```

For MATHJAX. Only the text is used. All other parameters are ignored.

```
55 \begin{warpMathJax}
56 % \multirow[vpos]{num}[bigstruts][width][vmove]{text}
57 \CustomizeMathJax{\newcommand{\LWRsubmultirow}[2][]{\#2}}
58 \CustomizeMathJax{\newcommand{\LWRmultirow}[2][]{\LWRsubmultirow}}
59 \CustomizeMathJax{\newcommand{\multirow}[2][]{\LWRmultirow}}
60 %
61 \CustomizeMathJax{\newcommand{\mrowcell}{}}
62 \CustomizeMathJax{\newcommand{\mcolrowcell}{}}
63 \CustomizeMathJax{\newcommand{\STneed}[1]{}}
64 \end{warpMathJax}
```

File 270 **l warp-multitoc.sty**

§ 370 Package **multitoc**

Pkg **multitoc** **multitoc** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{multitoc}[1999/06/08]

```
2 \newcommand{\multicolumntoc}{2}
3 \newcommand{\multicolumnlot}{2}
4 \newcommand{\multicolumnlof}{2}
5 \newcommand*{\immediateaddtocontents}[2]{}
```

File 271 **l warp-musicography.sty**

§ 371 Package **musicography**

(Emulates or patches code by ANDREW A. CASHNER.)

Pkg **musicography** **musicography** is patched for use by **l warp**.

Images are used for the meter symbols and fingered bass, since the HTML fonts tend not to be the correct size and HTML cannot stack items. The HTML alt tag copies C and 3/2, etc. Hashes are used for the meter images, which are then reused as necessary.

- ⚠ Note that browser support for musical symbols may be buggy. ALT text and copy/paste into a text editor work well.

for HTML output:

```
1 \LWR@ProvidesPackagePass{musicography}[2019/05/28]

2 \NewDocumentCommand{\LWR@HTML@musSymbol}{ O{\musFont} m m m m }{%
3 \begin{lateximage}%
4 {#1\kern#2\raisebox{#3}{#5}\kern#4}%
5 \end{lateximage}%
6 }
7
8 \LWR@formatted{musSymbol}
9
10 \NewDocumentCommand{\LWR@HTML@musStemmedNote}{ m }{%
11 \begin{lateximage}%
12 \musSymbol{0.05em}{0.5ex}{0.2em}{#1\musStem}%
13 \end{lateximage}%
14 }
15
16 \LWR@formatted{musStemmedNote}
17
18 \NewDocumentCommand{\LWR@HTML@musFlaggedNote}{ m m }{%
19 \begin{lateximage}%
20 \musSymbol{0.05em}{0.5ex}{0pt}{#1\musStem}%
21 \musSymbol{0pt}{0pt}{0.9em}{#2}%
22 \end{lateximage}%
23 }
24
25 \LWR@formatted{musFlaggedNote}
26
27 \NewDocumentCommand{\LWR@HTML@musDottedNote}{ m }{%
28 \begin{lateximage}%
29 #1\musDot%
30 \end{lateximage}%
31 }
32
33 \LWR@formatted{musDottedNote}
34
35 \NewDocumentCommand{\LWR@HTML@musMeter}{ m m }{%
36 \begin{lateximage}*{[#1/#2][#1#2]*}%
37 \musStack{#1 #2}\kern0.05em%
38 \end{lateximage}%
39 }
40
41 \LWR@formatted{musMeter}
42
43 \NewDocumentCommand{\LWR@HTML@meterCplus}{ m }{%
44 \begin{lateximage}*[C#1]*%
45 \meterC{}\kern-0.7pt#1%
46 \end{lateximage}%
47 }
48
49 \LWR@formatted{meterCplus}
50
51 \NewDocumentCommand{\LWR@HTML@meterC}{ }{%
```

```
52 \begin{lateximage}*[C]*%
53 \musSymbolMeter{\symbol{83}}%
54 \end{lateximage}%
55 }
56
57 \LWR@formatted{meterC}
58
59 \NewDocumentCommand{\LWR@HTML@meterCutC}{}{%
60 \begin{lateximage}*[C]*%
61 \musSymbolMeter{\symbol{82}}%
62 \end{lateximage}%
63 }
64
65 \LWR@formatted{meterCutC}
66
67 \NewDocumentCommand{\LWR@HTML@meterCThreeTwo}{}{%
68 \begin{lateximage}*[C3/2]*%
69 \meterCplus{\musStack{3 2}}%
70 \end{lateximage}%
71 }
72
73 \LWR@formatted{meterCThreeTwo}
74
75 \NewDocumentCommand{\LWR@HTML@meter0}{}{\HTMLunicode{25EF}}
76
77 \LWR@formatted{meter0}
78
79 \newcommand{\LWR@null@noFig}[1][]{}%
80
81 \NewDocumentCommand{\LWR@HTML@musFig}{ m }{%
82 \begin{lateximage}*[%
83     { \% ALT text for copy/paste
84         \LetLtxMacro\noFig\LWR@null@noFig%
85         \LetLtxMacro\musSharp\LWR@HTML@musSharp%
86         \LetLtxMacro\musDoubleSharp\LWR@HTML@musDoubleSharp%
87         \LetLtxMacro\musFlat\LWR@HTML@musFlat%
88         \LetLtxMacro\musDoubleFlat\LWR@HTML@musDoubleFlat%
89         \LetLtxMacro\musNatural\LWR@HTML@musNatural%
90     {#1} \% braces here because \noFig uses []
91   }%
92 ]*%
93   \musStack[\musFigFont]{#1}%
94 \end{lateximage}%
95 }
96
97 \LWR@formatted{musFig}
98
99 \NewDocumentCommand{\LWR@HTML@musFlat}{}{\HTMLunicode{266D}}
100 \NewDocumentCommand{\LWR@HTML@musDoubleFlat}{}{\HTMLunicode{1D12B}}
101 \NewDocumentCommand{\LWR@HTML@musSharp}{}{\HTMLunicode{266F}}
102 \NewDocumentCommand{\LWR@HTML@musDoubleSharp}{}{\HTMLunicode{1D12A}}
103 \NewDocumentCommand{\LWR@HTML@musNatural}{}{\HTMLunicode{266E}}
104
105 \LWR@formatted{musFlat}
106 \LWR@formatted{musDoubleFlat}
```

```

107 \LWR@formatted{musSharp}
108 \LWR@formatted{musDoubleSharp}
109 \LWR@formatted{musNatural}
110
111 \NewDocumentCommand{\LWR@HTML@musWhole}      {{}\{\HTMLUnicode{1D15D}}}
112 \NewDocumentCommand{\LWR@HTML@musHalf}        {{}\{\HTMLUnicode{1D15E}}}
113 \NewDocumentCommand{\LWR@HTML@musQuarter}     {{}\{\HTMLUnicode{1D15F}}}
114 \NewDocumentCommand{\LWR@HTML@musEighth}       {{}\{\HTMLUnicode{1D160}}}
115 \NewDocumentCommand{\LWR@HTML@musSixteenth}    {{}\{\HTMLUnicode{1D161}}}
116 \NewDocumentCommand{\LWR@HTML@musThirtySecond} {{}\{\HTMLUnicode{1D162}}}
117 \NewDocumentCommand{\LWR@HTML@musSixtyFourth}   {{}\{\HTMLUnicode{1D163}}}
118
119 \LWR@formatted{musWhole}
120 \LWR@formatted{musHalf}
121 \LWR@formatted{musQuarter}
122 \LWR@formatted{musEighth}
123 \LWR@formatted{musSixteenth}
124 \LWR@formatted{musThirtySecond}
125 \LWR@formatted{musSixtyFourth}
126
127 \NewDocumentCommand{\LWR@HTML@musWholeDotted}{{}}
128   {\HTMLUnicode{1D15D}\HTMLUnicode{1D16D}}
129 \NewDocumentCommand{\LWR@HTML@musHalfDotted}{{}}
130   {\HTMLUnicode{1D15E}\HTMLUnicode{1D16D}}
131 \NewDocumentCommand{\LWR@HTML@musQuarterDotted}{{}}
132   {\HTMLUnicode{1D15F}\HTMLUnicode{1D16D}}
133 \NewDocumentCommand{\LWR@HTML@musEighthDotted}{{}}
134   {\HTMLUnicode{1D160}\HTMLUnicode{1D16D}}
135 \NewDocumentCommand{\LWR@HTML@musSixteenthDotted}{{}}
136   {\HTMLUnicode{1D161}\HTMLUnicode{1D16D}}
137 \NewDocumentCommand{\LWR@HTML@musThirtySecondDotted}{{}}
138   {\HTMLUnicode{1D162}\HTMLUnicode{1D16D}}
139 \NewDocumentCommand{\LWR@HTML@musSixtyFourthDotted}{{}}
140   {\HTMLUnicode{1D163}\HTMLUnicode{1D16D}}
141
142 \LWR@formatted{musWholeDotted}
143 \LWR@formatted{musHalfDotted}
144 \LWR@formatted{musQuarterDotted}
145 \LWR@formatted{musEighthDotted}
146 \LWR@formatted{musSixteenthDotted}
147 \LWR@formatted{musThirtySecondDotted}
148 \LWR@formatted{musSixtyFourthDotted}

```

File 272 **lwarp-nameauth.sty**

§ 372 Package **nameauth**

(Emulates or patches code by CHARLES P. SCHAUM.)

Pkg **nameauth** **nameauth** is patched for use by **lwarp**.

for **HTML output**: 1 \LWR@ProvidesPackagePass{nameauth}[2017/03/22]

lwarp formatting is inserted in the following.

```
2 \renewcommand*{\nameauth@Hook}[1]
3 {%
4   \if@nameauth@Lock
5     \nameauth@InHooktrue%
6     \protected@edef\test{\#1}%
7     \expandafter\nameauth@TestDot\expandafter{\test}%
8     \if@nameauth@InAKA
9       \if@nameauth@AlwaysFormat
10         \nameauth@FirstFormattrue%
11       \else
12         \unless\if@nameauth@AKAFormat
13           \nameauth@FirstFormatfalse\fi
14       \fi
15     \if@nameauth@MainFormat
16       \if@nameauth@FirstFormat
17         \bgroup\NamesFormat{%
18           \LWR@textcurrentcolor{\LWR@textcurrentfont{\#1}}% lwarp
19         }\egroup%
20       \else
21         \bgroup\MainNameHook{%
22           \LWR@textcurrentcolor{\LWR@textcurrentfont{\#1}}% lwarp
23         }\egroup%
24       \fi
25     \else
26       \if@nameauth@FirstFormat
27         \bgroup\FrontNamesFormat{%
28           \LWR@textcurrentcolor{\LWR@textcurrentfont{\#1}}% lwarp
29         }\egroup%
30       \else
31         \bgroup\FrontNameHook{%
32           \LWR@textcurrentcolor{\LWR@textcurrentfont{\#1}}% lwarp
33         }\egroup%
34       \fi
35     \fi
36   \else
37     \if@nameauth@AlwaysFormat
38       \nameauth@FirstFormattrue%
39     \fi
40   \if@nameauth@MainFormat
41     \if@nameauth@FirstFormat
42       \bgroup\NamesFormat{%
43         \LWR@textcurrentcolor{\LWR@textcurrentfont{\#1}}% lwarp
44       }\egroup%
45     \else
46       \bgroup\MainNameHook{%
47         \LWR@textcurrentcolor{\LWR@textcurrentfont{\#1}}% lwarp
48       }\egroup%
49     \fi
50   \else
51     \if@nameauth@FirstFormat
52       \bgroup\FrontNamesFormat{%
53         \LWR@textcurrentcolor{\LWR@textcurrentfont{\#1}}% lwarp
54       }\egroup%
```

```

55      \else
56          \bgroup\FrontNameHook{%
57              \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}%    l warp
58          }\egroup%
59      \fi
60      \fi
61  \fi
62  \@nameauth@FirstFormatfalse%
63  \@nameauth@InHookfalse%
64 \fi
65 }

```

File 273 **l warp-nameref.sty**

§ 373 Package **nameref**

Pkg nameref nameref is emulated by l warp.

for HTML output: Discard all options for l warp-nameref:

```

1 \PackageInfo{l warp}{%
2 Using the l warp HTML version of package ‘nameref’, \MessageBreak
3 and discarding options.\MessageBreak
4 (Not using \protect\ProvidesPackage, so that other packages\MessageBreak
5 do not attempt to patch l warp’s version of ‘nameref’.)\MessageBreak
6 }
7 \DeclareOption*{}
8 \ProcessOptions\relax

```

File 274 **l warp-natbib.sty**

§ 374 Package **natbib**

(Emulates or patches code by PATRICK W. DALY.)

Pkg natbib natbib is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{natbib}[2010/09/13]

Replace math < and > with \textless and \textgreater:

A macro to compare:

```
2 \newcommand{\LWRNB@NAT@open}{$<$}
```

To patch \NAT@open and \NAT@close

```

3 \newcommand{\LWRNB@patchnatbibopenclose}{%
4 \ifdef\streq{\NAT@open}{\LWRNB@NAT@open}%
5 {%

```

```

6      \renewcommand{\NAT@open}{\textless}
7      \renewcommand{\NAT@close}{\textgreater}
8 }{}
9 }

```

Do it now in case angle was selected as an option:

```
10 \LWRNB@patchnatbibopenclose
```

Also patch \setcitestyle to patch after settings are made:

```

11 \let\LWRNB@origsetcitestyle\setcitestyle
12
13 \renewcommand{\setcitestyle}[1]{%
14 \LWRNB@origsetcitestyle{#1}%
15 \LWRNB@patchnatbibopenclose%
16 }

```

File 275 **lwarp-nccfancyhdr.sty**

§ 375 Package **nccfancyhdr**

(Emulates or patches code by ALEXANDER I. ROZHENKO.)

Pkg nccfancyhdr nccfancyhdr is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{nccfancyhdr}[2004/12/07]

```

2 \newcommand*{\headrulewidth}{}
3 \newcommand*{\footrulewidth}{}
4 \newcommand{\headstrutheight}{}
5 \newcommand{\footstrutheight}{}
6 \newcommand*{\headrule}{}
7 \newcommand*{\footrule}{}
8
9 \newdimen\headwidth
10 \newcommand*{\extendedheaders}{}
11 \newcommand*{\normalheaders}{}
12
13 \newcommand*{\fancyhead}[2][]{}
14 \newcommand*{\fancyfoot}[2][]{}
15 \newcommand*{\fancyhf}[2][]{}
16 \newcommand*{\fancypagestyle}[2]{}
17 \newcommand*{\lhead}[2][]{}
18 \newcommand*{\chead}[2][]{}
19 \newcommand*{\rhead}[2][]{}
20 \newcommand*{\lfoot}[2][]{}
21 \newcommand*{\cfoot}[2][]{}
22 \newcommand*{\rfoot}[2][]{}
23
24 \newcommand{\nouppercase}[1]{#1}
25

```

```

26 \NewDocumentCommand{\fancycenter}{o o m m}{}
27
28 \NewDocumentCommand{\newpagestyle}{m o m}{}
29
30 \newcommand*{\iffloatpage}[2]{#2}
31 \newcommand*{\ifftopfloat}[2]{#2}
32 \newcommand*{\iffbotfloat}[2]{#2}

```

File 276 **l warp-nccfoots.sty**

§ 376 Package **nccfoots**

(Emulates or patches code by ALEXANDER I. ROZHENKO.)

Pkg nccfoots nccfoots is used as-is, and emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{nccfoots}[2005/02/03]

- ⚠ For MATHJAX. There is no way to test for an empty argument, so the mark is not automatically duplicated.

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\Footnotemark}[1]{{}^{\mathrm{\footnotesize\#1}}}}
4 \CustomizeMathJax{\newcommand{\Footnote}[2]{\Footnotemark{\#1}}}
5 \end{warpMathJax}

```

File 277 **l warp-nccmath.sty**

§ 377 Package **nccmath**

(Emulates or patches code by ALEXANDER I. ROZHENKO.)

Pkg nccmath nccmath is patched for use by l warp, and emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{nccmath}[2006/01/20]

```

2 \let\LWR@origeqnarray\eqnarray
3 \let\LWR@origendeqnarray\endeqnarray
4
5 \csletcs{\LWR@origeqnarraystar}{\eqnarray*}
6 \csletcs{\LWR@origendeqnarraystar}{\endeqnarray*}
7
8 \RenewEnviron{\eqnarray}{%
9   %
10   \LWR@eqnarrayfactor
11 }
12
13 }
14

```

```

15 \RenewEnviron{eqnarray*}
16 {%
17
18   \begingroup
19   \csletcs{\LWR@origeqnarray}{\LWR@origeqnarraystar}
20   \csletcs{\LWR@origendeqnarray}{\LWR@origendeqnarraystar}
21   \boolfalse{\LWR@numbereqnarray}
22   \LWR@eqnarrayfactor
23   \endgroup
24
25 }
26
27 \def\eqs{%
28   \ifstar\LWR@nccmath@eqsstar\LWR@nccmath@eqs%
29 }
30 \newcommand*{\LWR@nccmath@eqsstar}[2][]{{\begin{eqnarray*}#2\end{eqnarray*}}}
31 \newcommand*{\LWR@nccmath@eqs}[2][]{{\begin{eqnarray}#2\end{eqnarray}}}
32
33 \begin{warpMathJax}
34 \CustomizeMathJax{\renewcommand{\intertext}[2][]{\\ \text{\#2}\notag \\}}
35 \CustomizeMathJax{\newenvironment{fleqn}[1][]{\begin{array}{l}#1\end{array}}}
36 \CustomizeMathJax{\newenvironment{ceqn}{}{}}
37 \CustomizeMathJax{\newenvironment{darray}[2][c]{\begin{array}{#1}#2\end{array}}}
38 \CustomizeMathJax{\newcommand{\dmulticolumn}[3]{}}
39 \CustomizeMathJax{\newcommand{\nr}{\,.5ex}}
40 \CustomizeMathJax{\newcommand{\mrel}[1]{\begin{aligned}#1\end{aligned}}}
41 \CustomizeMathJax{\newcommand{\underrel}[2][]{\#1_{\#2}}}
42 \CustomizeMathJax{\newcommand{\medmath}[1]{#1}}
43 \CustomizeMathJax{\newcommand{\medop}[1]{#1}}
44 \CustomizeMathJax{\newcommand{\medint}[1]{#1}}
45 \CustomizeMathJax{\newcommand{\medintcorr}[1]{#1}}
46 \CustomizeMathJax{\newcommand{\mfrac}[2]{\frac{\#1}{\#2}}}
47 \CustomizeMathJax{\newcommand{\mbinom}[2]{\binom{\#1}{\#2}}}
48 \CustomizeMathJax{\newenvironment{mmatrix}{\begin{matrix}}{\end{matrix}}}
49 \end{warpMathJax}

```

File 278 **l warp-needspace.sty**

§ 378 Package **needspace**

(Emulates or patches code by PETER WILSON.)

Pkg **needspace** **needspace** is ignored.

for HTML output: Discard all options for **l warp-needspace**:

```

1 \LWR@ProvidesPackageDrop{needspace}[2010/09/12]
2
3 \DeclareDocumentCommand{\needspace}{m}{}
4 \DeclareDocumentCommand{\Needspace}{s m}{}

```

File 279 **l warp-nextpage.sty**

§ 379 Package **nextpage**

(Emulates or patches code by PETER WILSON.)

Pkg nextpage nextpage is ignored.

Discard all options for `lwarp-nextpage`.

1 \LWR@ProvidesPackageDrop{nextpage}[2009/09/03]

```
2 \DeclareDocumentCommand{\cleartoevenpage}{o}{}  
3 \DeclareDocumentCommand{\movetoevenpage}{o}{}  
4 \DeclareDocumentCommand{\cleartooddpage}{o}{}  
5 \DeclareDocumentCommand{\movetooddpage}{o}{}  
6 \end{document}
```

File 280 **lwarp-nfssext-cfr.sty**

§ 380 Package nfssext-cfr

(Emulates or patches code by CLEA F. REES.)

Pkg nfssext-cfr nfssext-cfr is emulated in HTML, and used as-is in print output.

Results depend on the browser's font.

for HTML output: \LWR@ProvidesPackagePass{nfssext-cfr}{2017/03/28}

Macros which are present in the `lwarp` core are commented out here.

```
19 \newrobustcmd{\LWR@HTML@swashstyle}{}  
20 \newrobustcmd{\LWR@HTML@tmstyle}{}  
21 \newrobustcmd{\LWR@HTML@tvstyle}{\renewcommand*{\LWR@f@family}{tt}}  
22 \newrobustcmd{\LWR@HTML@tstyle}{}  
23 \newrobustcmd{\LWR@HTML@lstyle}{}  
24 \newrobustcmd{\LWR@HTML@tlstyle}{}  
25 \newrobustcmd{\LWR@HTML@plstyle}{}  
26 \newrobustcmd{\LWR@HTML@tostyle}{\LWR@HTML@scshape}  
27 % \newrobustcmd{\LWR@HTML@sishape}{}  
28 \newrobustcmd{\LWR@HTML@olshape}{}  
29 \newrobustcmd{\LWR@HTML@scolshape}{}  
30 \newrobustcmd{\LWR@HTML@ushape}{}  
31 \newrobustcmd{\LWR@HTML@scushape}{}  
32 \newrobustcmd{\LWR@HTML@uishape}{\LWR@HTML@itshape}  
33 \newrobustcmd{\LWR@HTML@rishape}{}  
34 \newrobustcmd{\LWR@HTML@regwidth}{}  
35 \newrobustcmd{\LWR@HTML@nwwidth}{}  
36 \newrobustcmd{\LWR@HTML@cdwidth}{}  
37 \newrobustcmd{\LWR@HTML@ecwidth}{}  
38 \newrobustcmd{\LWR@HTML@ucwidth}{}  
39 \newrobustcmd{\LWR@HTML@etwidth}{}  
40 \newrobustcmd{\LWR@HTML@epwidth}{}  
41 \newrobustcmd{\LWR@HTML@exwidth}{}  
42 \newrobustcmd{\LWR@HTML@uxwidth}{}  
43 \newrobustcmd{\LWR@HTML@mbweight}{\renewcommand*{\LWR@f@series}{md}}  
44 \newrobustcmd{\LWR@HTML@dbweight}{\renewcommand*{\LWR@f@series}{bf}}  
45 \newrobustcmd{\LWR@HTML@sbweight}{\renewcommand*{\LWR@f@series}{bf}}  
46 % \newrobustcmd{\LWR@HTML@ebweight}{\renewcommand*{\LWR@f@series}{eb}}  
47 \newrobustcmd{\LWR@HTML@ubweight}{\renewcommand*{\LWR@f@series}{eb}}  
48 % \newrobustcmd{\LWR@HTML@lgweight}{\renewcommand*{\LWR@f@series}{lg}}  
49 \newrobustcmd{\LWR@HTML@elweight}{\renewcommand*{\LWR@f@series}{lg}}  
50 \newrobustcmd{\LWR@HTML@ulweight}{\renewcommand*{\LWR@f@series}{lg}}  
51 % \newrobustcmd{\LWR@HTML@itshape}{}  
52 % \newrobustcmd{\LWR@HTML@scshape}{}  
53 % \newrobustcmd{\LWR@HTML@upshape}{}  
54 \newrobustcmd{\LWR@HTML@dfshape}{}  
55  
56 \ifdef{\LWR@HTML@swshape}{}{% duplicated by fontaxes  
57     \newrobustcmd{\LWR@HTML@swshape}{}  
58 }  
59  
60 \newrobustcmd{\LWR@HTML@ornament}[1]{}  
61  
62 \LWR@formatted{lnstyle}  
63 \LWR@formatted{osstyle}  
64 \LWR@formatted{instyle}  
65 \LWR@formatted{sustyle}  
66 \LWR@formatted{swstyle}  
67 \LWR@formatted{pstyle}  
68 \LWR@formatted{tistyle}  
69 \LWR@formatted{ostyle}  
70 \LWR@formatted{postyle}  
71 \LWR@formatted{ltstyle}  
72 \LWR@formatted{ofstyle}  
73 \LWR@formatted{altstyle}
```

```
74 \LWR@formatted{regstyle}
75 \LWR@formatted{embossstyle}
76 \LWR@formatted{ornamentalstyle}
77 \LWR@formatted{qtstyle}
78 \LWR@formatted{shstyle}
79 \LWR@formatted{swashstyle}
80 \LWR@formatted{tmstyle}
81 \LWR@formatted{tvstyle}
82 \LWR@formatted{tstyle}
83 \LWR@formatted{lstyle}
84 \LWR@formatted{tlstyle}
85 \LWR@formatted{plstyle}
86 \LWR@formatted{tostyle}
87 % \LWR@formatted{sishape}
88 \LWR@formatted{olshape}
89 \LWR@formatted{scolshape}
90 \LWR@formatted{ushape}
91 \LWR@formatted{scushape}
92 \LWR@formatted{uishape}
93 \LWR@formatted{rishape}
94 \LWR@formatted{regwidth}
95 \LWR@formatted{newidth}
96 \LWR@formatted{cdwidth}
97 \LWR@formatted{ecwidth}
98 \LWR@formatted{ucwidth}
99 \LWR@formatted{etwidth}
100 \LWR@formatted{epwidth}
101 \LWR@formatted{exwidth}
102 \LWR@formatted{uxwidth}
103 \LWR@formatted{mbweight}
104 \LWR@formatted{dbweight}
105 \LWR@formatted{sbweight}
106 % \LWR@formatted{ebweight}
107 \LWR@formatted{ubweight}
108 % \LWR@formatted{lgweight}
109 \LWR@formatted{elweight}
110 \LWR@formatted{ulweight}
111 % \LWR@formatted{itshape}
112 % \LWR@formatted{scshape}
113 % \LWR@formatted{upshape}
114 \LWR@formatted{dfshape}
115
116 \ifdef{\LWR@HTML@swshape}{}{%
117     \LWR@formatted{swshape}
118 }
119
120 \LWR@formatted{ornament}
121
122
123 \newcommand{\LWR@null@lnstyle}{}
124 \newcommand{\LWR@null@osstyle}{}
125 \newcommand{\LWR@null@instyle}{}
126 \newcommand{\LWR@null@sustyle}{}
127 \newcommand{\LWR@null@swstyle}{}
128 \newcommand{\LWR@null@pststyle}{}
```

```
129 \newcommand{\LWR@null@tistyle}{}  
130 \newcommand{\LWR@null@oostyle}{}  
131 \newcommand{\LWR@null@postyle}{}  
132 \newcommand{\LWR@null@ltstyle}{}  
133 \newcommand{\LWR@null@ofstyle}{}  
134 \newcommand{\LWR@null@altstyle}{}  
135 \newcommand{\LWR@null@regstyle}{}  
136 \newcommand{\LWR@null@embossstyle}{}  
137 \newcommand{\LWR@null@ornamentalstyle}{}  
138 \newcommand{\LWR@null@qtstyle}{}  
139 \newcommand{\LWR@null@shstyle}{}  
140 \newcommand{\LWR@null@swashstyle}{}  
141 \newcommand{\LWR@null@tmstyle}{}  
142 \newcommand{\LWR@null@tvstyle}{}  
143 \newcommand{\LWR@null@tsstyle}{}  
144 \newcommand{\LWR@null@lstyle}{}  
145 \newcommand{\LWR@null@tlstyle}{}  
146 \newcommand{\LWR@null@plstyle}{}  
147 \newcommand{\LWR@null@tostyle}{}  
148 % \newcommand{\LWR@null@sishape}{}  
149 \newcommand{\LWR@null@olshape}{}  
150 \newcommand{\LWR@null@scolshape}{}  
151 \newcommand{\LWR@null@cushape}{}  
152 \newcommand{\LWR@null@scushape}{}  
153 \newcommand{\LWR@null@uishishape}{}  
154 \newcommand{\LWR@null@rishape}{}  
155 \newcommand{\LWR@null@regwidth}{}  
156 \newcommand{\LWR@null@nwwidth}{}  
157 \newcommand{\LWR@null@cdwidth}{}  
158 \newcommand{\LWR@null@ecwidth}{}  
159 \newcommand{\LWR@null@ucwidth}{}  
160 \newcommand{\LWR@null@etwidth}{}  
161 \newcommand{\LWR@null@epwidth}{}  
162 \newcommand{\LWR@null@exwidth}{}  
163 \newcommand{\LWR@null@uxwidth}{}  
164 \newcommand{\LWR@null@mbweight}{}  
165 \newcommand{\LWR@null@dbweight}{}  
166 \newcommand{\LWR@null@sbweight}{}  
167 % \newcommand{\LWR@null@ebweight}{}  
168 \newcommand{\LWR@null@ubweight}{}  
169 % \newcommand{\LWR@null@lgweight}{}  
170 \newcommand{\LWR@null@elweight}{}  
171 \newcommand{\LWR@null@ulweight}{}  
172 % \newcommand{\LWR@null@itshape}{}  
173 % \newcommand{\LWR@null@scshape}{}  
174 % \newcommand{\LWR@null@upshape}{}  
175 \newcommand{\LWR@null@dfshape}{}  
176  
177 \ifdef{\LWR@HTML@swshape}{}{% duplicated by fontaxes  
178     \newcommand{\LWR@null@swshape}{}  
179 }  
180  
181 \newcommand{\LWR@null@ornament}[1]{}  
182  
183 \appto{\LWR@nullfonts}{%
```

```
184 \LetLtxMacro\lnstyle\LWR@null@lnstyle%
185 \LetLtxMacro\osstyle\LWR@null@osstyle%
186 \LetLtxMacro\instyle\LWR@null@instyle%
187 \LetLtxMacro\sustyle\LWR@null@sustyle%
188 \LetLtxMacro\swstyle\LWR@null@swstyle%
189 \LetLtxMacro\pstyle\LWR@null@pstyle%
190 \LetLtxMacro\tistyle\LWR@null@tistyle%
191 \LetLtxMacro\ostyle\LWR@null@ostyle%
192 \LetLtxMacro\postyle\LWR@null@postyle%
193 \LetLtxMacro\ltstyle\LWR@null@ltstyle%
194 \LetLtxMacro\ofstyle\LWR@null@ofstyle%
195 \LetLtxMacro\altstyle\LWR@null@altstyle%
196 \LetLtxMacro\regstyle\LWR@null@regstyle%
197 \LetLtxMacro\embossstyle\LWR@null@embossstyle%
198 \LetLtxMacro\ornamentalstyle\LWR@null@ornamentalstyle%
199 \LetLtxMacro\qtstyle\LWR@null@qtstyle%
200 \LetLtxMacro\shstyle\LWR@null@shstyle%
201 \LetLtxMacro\swashstyle\LWR@null@swashstyle%
202 \LetLtxMacro\tmstyle\LWR@null@tmstyle%
203 \LetLtxMacro\tvstyle\LWR@null@tvstyle%
204 \LetLtxMacro\tstyle\LWR@null@tstyle%
205 \LetLtxMacro\lstyle\LWR@null@lstyle%
206 \LetLtxMacro\tlstyle\LWR@null@tlstyle%
207 \LetLtxMacro\plstyle\LWR@null@plstyle%
208 \LetLtxMacro\tostyle\LWR@null@tostyle%
209 % \LetLtxMacro\sishape\LWR@null@sishape%
210 \LetLtxMacro\olshape\LWR@null@olshape%
211 \LetLtxMacro\scolshape\LWR@null@scolshape%
212 \LetLtxMacro\ushape\LWR@null@ushape%
213 \LetLtxMacro\scushape\LWR@null@scushape%
214 \LetLtxMacro\uishape\LWR@null@uishape%
215 \LetLtxMacro\rishape\LWR@null@rishape%
216 \LetLtxMacro\regwidth\LWR@null@regwidth%
217 \LetLtxMacro\newidth\LWR@null@newidth%
218 \LetLtxMacro\cdwidth\LWR@null@cdwidth%
219 \LetLtxMacro\ecwidth\LWR@null@ecwidth%
220 \LetLtxMacro\ucwidth\LWR@null@ucwidth%
221 \LetLtxMacro\etwidth\LWR@null@etwidth%
222 \LetLtxMacro\epwidth\LWR@null@epwidth%
223 \LetLtxMacro\exwidth\LWR@null@exwidth%
224 \LetLtxMacro\uxwidth\LWR@null@uxwidth%
225 \LetLtxMacro\mbweight\LWR@null@mbweight%
226 \LetLtxMacro\dbweight\LWR@null@dbweight%
227 \LetLtxMacro\sbweight\LWR@null@sbweight%
228 % \LetLtxMacro\ebweight\LWR@null@ebweight%
229 \LetLtxMacro\ubweight\LWR@null@ubweight%
230 % \LetLtxMacro\lgweight\LWR@null@lgweight%
231 \LetLtxMacro\elweight\LWR@null@elweight%
232 \LetLtxMacro\ulweight\LWR@null@ulweight%
233 % \LetLtxMacro\itshape\LWR@null@itshape%
234 % \LetLtxMacro\scshape\LWR@null@scshape%
235 % \LetLtxMacro\upshape\LWR@null@upshape%
236 \LetLtxMacro\dfshape\LWR@null@dfshape%
237 \LetLtxMacro\swshape\LWR@null@swshape%
238 \LetLtxMacro\ornament\LWR@null@ornament%
```

```
239 }
240 \newrobustcmd{\LWR@HTML@textln}[1]{#1}
242 \newrobustcmd{\LWR@HTML@textos}[1]{\textsc{#1}}
243 \newrobustcmd{\LWR@HTML@textin}[1]{#1}
244 \newrobustcmd{\LWR@HTML@textsU}[1]{#1}
245 % \newrobustcmd{\LWR@HTML@textsi}[1]{#1}
246 \newrobustcmd{\LWR@HTML@textdf}[1]{#1}
247
248 \ifdef{\LWR@HTML@swshape}{}{\% duplicated by fontaxes
249     \newrobustcmd{\LWR@HTML@textsw}[1]{#1}
250 }
251
252 \newrobustcmd{\LWR@HTML@textti}[1]{#1}
253 \newrobustcmd{\LWR@HTML@textlt}[1]{#1}
254 \newrobustcmd{\LWR@HTML@textof}[1]{#1}
255 \newrobustcmd{\LWR@HTML@textalt}[1]{#1}
256 \newrobustcmd{\LWR@HTML@textreg}[1]{#1}
257 \newrobustcmd{\LWR@HTML@emboss}[1]{#1}
258 \newrobustcmd{\LWR@HTML@textorn}[1]{#1}
259 \newrobustcmd{\LWR@HTML@textqt}[1]{#1}
260 \newrobustcmd{\LWR@HTML@textsh}[1]{#1}
261 \newrobustcmd{\LWR@HTML@texttm}[1]{#1}
262 \newrobustcmd{\LWR@HTML@texttv}[1]{\texttt{#1}}
263 \newrobustcmd{\LWR@HTML@textl}[1]{#1}
264 \newrobustcmd{\LWR@HTML@texto}[1]{#1}
265 \newrobustcmd{\LWR@HTML@textp}[1]{#1}
266 \newrobustcmd{\LWR@HTML@textt}[1]{#1}
267 \newrobustcmd{\LWR@HTML@textpl}[1]{#1}
268 \newrobustcmd{\LWR@HTML@textpo}[1]{\textsc{#1}}
269 \newrobustcmd{\LWR@HTML@texttl}[1]{#1}
270 \newrobustcmd{\LWR@HTML@textto}[1]{\textsc{#1}}
271 \newrobustcmd{\LWR@HTML@textol}[1]{#1}
272 \newrobustcmd{\LWR@HTML@textwash}[1]{#1}
273 \newrobustcmd{\LWR@HTML@textu}[1]{#1}
274 \newrobustcmd{\LWR@HTML@textsc}[1]{#1}
275 \newrobustcmd{\LWR@HTML@textui}[1]{\LWR@HTML@textit{#1}}
276 \newrobustcmd{\LWR@HTML@textri}[1]{#1}
277 \newrobustcmd{\LWR@HTML@textnw}[1]{#1}
278 \newrobustcmd{\LWR@HTML@textcd}[1]{#1}
279 \newrobustcmd{\LWR@HTML@textec}[1]{#1}
280 \newrobustcmd{\LWR@HTML@textuc}[1]{#1}
281 \newrobustcmd{\LWR@HTML@textet}[1]{#1}
282 \newrobustcmd{\LWR@HTML@textep}[1]{#1}
283 \newrobustcmd{\LWR@HTML@textex}[1]{#1}
284 \newrobustcmd{\LWR@HTML@textux}[1]{#1}
285 \newrobustcmd{\LWR@HTML@textrw}[1]{#1}
286 \newrobustcmd{\LWR@HTML@textmb}[1]{\textmd{#1}}
287 \newrobustcmd{\LWR@HTML@textdb}[1]{\textbf{#1}}
288 \newrobustcmd{\LWR@HTML@textsb}[1]{\textbf{#1}}
289 % \newrobustcmd{\LWR@HTML@texteb}[1]{#1}
290 \newrobustcmd{\LWR@HTML@textub}[1]{\texteb{#1}}
291 % \newrobustcmd{\LWR@HTML@textlg}[1]{#1}
292 \newrobustcmd{\LWR@HTML@textel}[1]{\textlg{#1}}
293 \newrobustcmd{\LWR@HTML@textul}[1]{\textlg{#1}}
```

```
294
295 \LWR@formatted{textln}
296 \LWR@formatted{textos}
297 \LWR@formatted{textin}
298 \LWR@formatted{textsu}
299 % \LWR@formatted{textsi}
300 \LWR@formatted{textdf}
301 \LWR@formatted{textsw}
302 \LWR@formatted{textti}
303 \LWR@formatted{textlt}
304 \LWR@formatted{textof}
305 \LWR@formatted{textalt}
306 \LWR@formatted{textreg}
307 \LWR@formatted{emboss}
308 \LWR@formatted{textorn}
309 \LWR@formatted{textqt}
310 \LWR@formatted{textsh}
311 \LWR@formatted{texttm}
312 \LWR@formatted{texttv}
313 \LWR@formatted{textl}
314 \LWR@formatted{texto}
315 \LWR@formatted{textp}
316 \LWR@formatted{textt}
317 \LWR@formatted{textpl}
318 \LWR@formatted{textpo}
319 \LWR@formatted{texttl}
320 \LWR@formatted{textto}
321 \LWR@formatted{textol}
322 \LWR@formatted{textwash}
323 \LWR@formatted{textu}
324 \LWR@formatted{textscu}
325 \LWR@formatted{textui}
326 \LWR@formatted{textri}
327 \LWR@formatted{textnw}
328 \LWR@formatted{textcd}
329 \LWR@formatted{textec}
330 \LWR@formatted{textuc}
331 \LWR@formatted{texttet}
332 \LWR@formatted{textep}
333 \LWR@formatted{textex}
334 \LWR@formatted{textux}
335 \LWR@formatted{textrw}
336 \LWR@formatted{textmb}
337 \LWR@formatted{textdb}
338 \LWR@formatted{textsb}
339 % \LWR@formatted{texteb}
340 \LWR@formatted{textub}
341 % \LWR@formatted{textlg}
342 \LWR@formatted{textel}
343 \LWR@formatted{textul}
344
345 \newrobustcmd{\LWR@null@textln}[1]{#1}
346 \newrobustcmd{\LWR@null@textos}[1]{#1}
347 \newrobustcmd{\LWR@null@textin}[1]{#1}
348 \newrobustcmd{\LWR@null@texts}{[1]{#1}}
```

```
349 % \newrobustcmd{\LWR@null@texts}{[1]{#1}}
350 \newrobustcmd{\LWR@null@textdf}{[1]{#1}}
351
352 \ifdef{\LWR@HTML@swshape}{}{%
353     \newrobustcmd{\LWR@null@textsw}{[1]{#1}}
354 }
355
356 \newrobustcmd{\LWR@null@textti}{[1]{#1}}
357 \newrobustcmd{\LWR@null@textlt}{[1]{#1}}
358 \newrobustcmd{\LWR@null@textof}{[1]{#1}}
359 \newrobustcmd{\LWR@null@textalt}{[1]{#1}}
360 \newrobustcmd{\LWR@null@textreg}{[1]{#1}}
361 \newrobustcmd{\LWR@null@emboss}{[1]{#1}}
362 \newrobustcmd{\LWR@null@textorn}{[1]{#1}}
363 \newrobustcmd{\LWR@null@textqt}{[1]{#1}}
364 \newrobustcmd{\LWR@null@textsh}{[1]{#1}}
365 \newrobustcmd{\LWR@null@texttm}{[1]{#1}}
366 \newrobustcmd{\LWR@null@texttv}{[1]{#1}}
367 \newrobustcmd{\LWR@null@textl}{[1]{#1}}
368 \newrobustcmd{\LWR@null@texto}{[1]{#1}}
369 \newrobustcmd{\LWR@null@textp}{[1]{#1}}
370 \newrobustcmd{\LWR@null@textt}{[1]{#1}}
371 \newrobustcmd{\LWR@null@textpl}{[1]{#1}}
372 \newrobustcmd{\LWR@null@textpo}{[1]{#1}}
373 \newrobustcmd{\LWR@null@texttl}{[1]{#1}}
374 \newrobustcmd{\LWR@null@textto}{[1]{#1}}
375 \newrobustcmd{\LWR@null@textol}{[1]{#1}}
376 \newrobustcmd{\LWR@null@textwash}{[1]{#1}}
377 \newrobustcmd{\LWR@null@textu}{[1]{#1}}
378 \newrobustcmd{\LWR@null@textscu}{[1]{#1}}
379 \newrobustcmd{\LWR@null@textui}{[1]{#1}}
380 \newrobustcmd{\LWR@null@textri}{[1]{#1}}
381 \newrobustcmd{\LWR@null@textnw}{[1]{#1}}
382 \newrobustcmd{\LWR@null@textcd}{[1]{#1}}
383 \newrobustcmd{\LWR@null@textec}{[1]{#1}}
384 \newrobustcmd{\LWR@null@textuc}{[1]{#1}}
385 \newrobustcmd{\LWR@null@textet}{[1]{#1}}
386 \newrobustcmd{\LWR@null@textep}{[1]{#1}}
387 \newrobustcmd{\LWR@null@textex}{[1]{#1}}
388 \newrobustcmd{\LWR@null@textux}{[1]{#1}}
389 \newrobustcmd{\LWR@null@textrw}{[1]{#1}}
390 \newrobustcmd{\LWR@null@textmb}{[1]{#1}}
391 \newrobustcmd{\LWR@null@textdb}{[1]{#1}}
392 \newrobustcmd{\LWR@null@textsb}{[1]{#1}}
393 % \newrobustcmd{\LWR@null@texteb}{[1]{#1}}
394 \newrobustcmd{\LWR@null@textub}{[1]{#1}}
395 % \newrobustcmd{\LWR@null@textlg}{[1]{#1}}
396 \newrobustcmd{\LWR@null@textel}{[1]{#1}}
397 \newrobustcmd{\LWR@null@textul}{[1]{#1}}
398
399 \appto{\LWR@nullfonts}{%
400 \LetLtxMacro\textln{\LWR@null@textln}
401 \LetLtxMacro\textos{\LWR@null@textos}
402 \LetLtxMacro\textin{\LWR@null@textin}
403 \LetLtxMacro\textsu{\LWR@null@textsu}
```

```
404 % \LetLtxMacro{textsi}{\LWR@null@textsi%}
405 \LetLtxMacro{textdf}{\LWR@null@textdf%}
406 \LetLtxMacro{textsw}{\LWR@null@textsw%}
407 \LetLtxMacro{textti}{\LWR@null@textti%}
408 \LetLtxMacro{textlt}{\LWR@null@textlt%}
409 \LetLtxMacro{textof}{\LWR@null@textof%}
410 \LetLtxMacro{textalt}{\LWR@null@textalt%}
411 \LetLtxMacro{textreg}{\LWR@null@textreg%}
412 \LetLtxMacro{emboss}{\LWR@null@emboss%}
413 \LetLtxMacro{textorn}{\LWR@null@textorn%}
414 \LetLtxMacro{textqt}{\LWR@null@textqt%}
415 \LetLtxMacro{textsh}{\LWR@null@textsh%}
416 \LetLtxMacro{texttm}{\LWR@null@texttm%}
417 \LetLtxMacro{texttv}{\LWR@null@texttv%}
418 \LetLtxMacro{texttl}{\LWR@null@texttl%}
419 \LetLtxMacro{texto}{\LWR@null@texto%}
420 \LetLtxMacro{textp}{\LWR@null@textp%}
421 \LetLtxMacro{texttt}{\LWR@null@texttt%}
422 \LetLtxMacro{textpl}{\LWR@null@textpl%}
423 \LetLtxMacro{textpo}{\LWR@null@textpo%}
424 \LetLtxMacro{texttl}{\LWR@null@texttl%}
425 \LetLtxMacro{textto}{\LWR@null@textto%}
426 \LetLtxMacro{textol}{\LWR@null@textol%}
427 \LetLtxMacro{textwash}{\LWR@null@textwash%}
428 \LetLtxMacro{textu}{\LWR@null@textu%}
429 \LetLtxMacro{textscu}{\LWR@null@textscu%}
430 \LetLtxMacro{textui}{\LWR@null@textui%}
431 \LetLtxMacro{texttri}{\LWR@null@texttri%}
432 \LetLtxMacro{textnw}{\LWR@null@textnw%}
433 \LetLtxMacro{textcd}{\LWR@null@textcd%}
434 \LetLtxMacro{textec}{\LWR@null@textec%}
435 \LetLtxMacro{textuc}{\LWR@null@textuc%}
436 \LetLtxMacro{textet}{\LWR@null@textet%}
437 \LetLtxMacro{textep}{\LWR@null@textep%}
438 \LetLtxMacro{textex}{\LWR@null@textex%}
439 \LetLtxMacro{textux}{\LWR@null@textux%}
440 \LetLtxMacro{textrw}{\LWR@null@textrw%}
441 \LetLtxMacro{textmb}{\LWR@null@textmb%}
442 \LetLtxMacro{textdb}{\LWR@null@textdb%}
443 \LetLtxMacro{textsb}{\LWR@null@textsb%}
444 % \LetLtxMacro{texteb}{\LWR@null@texteb%}
445 \LetLtxMacro{textub}{\LWR@null@textub%}
446 % \LetLtxMacro{textlg}{\LWR@null@textlg%}
447 \LetLtxMacro{textel}{\LWR@null@textel%}
448 \LetLtxMacro{textul}{\LWR@null@textul%}
449 }
450
451 \providecommand*\{\zeroslash}{\emptyset}
452 \newrobustcmd*\{\LWR@HTML\zeroslash}{\emptyset}
453 \LWR@formatted\zeroslash
```

File 281 **l warp-nicefrac.sty**

§ 381 Package **nicefrac**

(Emulates or patches code by AXEL REICHERT.)

Pkg nicefrac nicefrac is patched for use by l warp.

for HTML output:

```
1 \LWR@ProvidesPackagePass{nicefrac}[1998/08/04]

2 \DeclareRobustCommand*{\LWR@HTML@@UnitsNiceFrac}[3][]{%
3   {% localize font selection
4     #1{%
5       \LWR@textcurrentfont{%
6         \InlineClass{numerator}{#2}%
7         /%
8         \InlineClass{denominator}{#3}%
9       }%
10    }%
11  }%
12 }
13
14 \LWR@formatted{@UnitsNiceFrac}
15
16 \DeclareRobustCommand*{\LWR@HTML@@UnitsUglyFrac}[3][]{%
17   {% localize font selection
18     #1{\LWR@textcurrentfont{#2/#3}}%
19   }%
20 }
21
22 \LWR@formatted{@UnitsUglyFrac}
```

For Mathjax:

```
23 \begin{warpMathJax}
24 \CustomizeMathJax{\newcommand{\nicefrac}[3][]{\#2/\#3}}
25 \end{warpMathJax}
```

File 282 **l warp-niceframe.sty**

§ 382 Package **niceframe**

Pkg niceframe niceframe is emulated.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{niceframe}% the original date is in yyyy/dd/mm format
```

```
2 \newcommand{\LWR@niceframe}[3]{%
```

```

3   \begin{LWR@setvirtualpage}%
4   \setlength{\LWR@templengthone}{#1}%
5   \begin{BlockClass}[max-width:\LWR@printlength{\LWR@templengthone}]{#3}%
6   #2
7   \end{BlockClass}%
8   \end{LWR@setvirtualpage}%
9 }
10
11 \newcommand{\niceframe}[2][\textwidth]{\LWR@niceframe{#1}{#2}{niceframe}}
12 \newcommand{\curlyframe}[2][\textwidth]{\LWR@niceframe{#1}{#2}{curlyframe}}
13 \newcommand{\artdecoframe}[2][\textwidth]{\LWR@niceframe{#1}{#2}{artdecoframe}}
14
15 \newcommand{\generalframe}[9]{\LWR@niceframe{\textwidth}{#9}{generalframe}}

```

File 283 **l warp-noitcru.l.sty**

§ 383 Package **noitcru**

(Emulates or patches code by PAUL EBERMANN.)

Pkg noitcru **noitcru** is used as-is for SVG and emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{noitcru}[2006/04/11]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\noitUnderline}[1]{\underline{#1}\!}}
4 \end{warpMathJax}

```

File 284 **l warp-nolbreaks.sty**

§ 384 Package **nolbreaks**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg nolbreaks **nolbreaks** is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{nolbreaks}[2012/05/31]

```

2 \NewDocumentCommand{\nolbreaks}{s m}{\InlineClass{nolbreaks}{#2}}

```

File 285 **l warp-nomencl.sty**

§ 385 Package **nomencl**

(Emulates or patches code by BORIS VEYTSMAN, BERND SCHANDL, LEE NETHERTON, CV RADHAKRISHNAN.)

Pkg nomencl **nomencl** is patched for use by **l warp**.

To process the HTML nomenclature:

```
makeindex <project>_html.nlo -s nomencl.list -o <project>_html.nls
```

for HTML output: 1 \LWR@ProvidesPackagePass{nomencl}[2005/09/22]

\BaseJobname is added to the label in case xr or xr-hyper are used.

```
2 \def\@@nomenclature[#1]#2#3{%
3   \def\@tempa{#2}\def\@tempb{#3}%
4   \protected@write\@nomenclaturefile{}{%
5     {\string\nomenclatureentry{#1\nom@verb\@tempa @[\{\nom@verb\@tempa]}%
6       \begingroup\nom@verb\@tempb\protect\nameqref{\theequation}%
7         |nompageref}{\theLWR@previousautopagelabel}}% l warp
8   \endgroup
9   \esphack}
10
11 \renewcommand*\pagedeclaration[1]{, \nameref{\BaseJobname-autopage-#1}}%
```

File 286 **l warp-nonfloat.sty**

§ 386 Package **nonfloat**

(Emulates or patches code by KAI RASCHER.)

Pkg nonfloat nonfloat is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{nonfloat}[1999/07/05]

```
2 \LetLtxMacro\topcaption\caption
3 \newcommand{\figcaption}{\def\@capttype{figure}\caption}
4 \newcommand{\tabcaption}{\def\@capttype{table}\topcaption}
5 \newenvironment{narrow}[2]{}{}
```

File 287 **l warp-nonumonpart.sty**

§ 387 Package **nonumonpart**

Pkg nonumonpart nonumonpart is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{nonumonpart}[2011/04/15]

File 288 **l warp-nopageno.sty**

§ 388 Package **nopageno**

Pkg nopageno nopageno is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{nopageno}[1989/01/01]

File 289 **l warp-notes.sty**

§ 389 Package **notes**

Pkg notes **notes** is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{notes}[2002/10/29]

```
2 \newcommand*{\LWR@notes@onenote}[2]{%
3 \newenvironment{#1}{%
4   \BlockClass{notes#1}%
5   \begin{BlockClass}{notesicon}\textcircled{~#2~}\end{BlockClass}%
6   \BlockClass{notescontents}%
7 }%
8 {\endBlockClass\endBlockClass}%
9 }%
10 }%
11 \LWR@notes@onenote{importantnote}{!}%
12 \LWR@notes@onenote{warningnote}{--}%
13 \LWR@notes@onenote{informationnote}{i}
```

File 290 **l warp-notespaces.sty**

§ 390 Package **notespaces**

Pkg notespaces **notespaces** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{notespaces}[2016/08/21]

```
2 \newcommand*{\npnotesname}{}%
3 \newcommand*{\npnotestext}{}%
4 \newcommand*{\remainingtextheight}{}%
5 \newdimen\remainingtextheight%
6 \newcommand*{\notestitletext}{}%
7 \newcommand*{\notesareatext}{}%
8 \newcommand*{\npnpiinfo}[1]{}%
9 \newcommand*{\tracingnpmarks}{}%
10 \newcommand*{\notespage}[1]{}%
11 \newcommand*{\notespages}[1]{}%
12 \newcommand*{\notesfill}[1]{}%
13 \newcommand*{\setnotespages}[1]{}%
14 \newcommand*{\definenotesoption}[2]{}%
15 \newcommand{\definenotesstyle}[2]{}%
16 \newcommand{\definetitlestyle}[2]{}%
```

```
17 \newcommand{\nppatchchapter}[1]{}
18 \newcommand{\npunpatchchapter}{}{}
```

File 291 **l warp-nowidow.sty**

§ 391 Package **nowidow**

(Emulates or patches code by RAPHAËL PINSON.)

Pkg nowidow nowidow is ignored.

Discard all options for l warp-nowidow:

for HTML output: 1 \LWR@ProvidesPackageDrop{nowidow}[2011/09/20]

```
\nowidow  [\langle lines\rangle]
\setnowidow  [\langle lines\rangle]
2 \newcommand*{\nowidow}[1][]{}
3 \newcommand*{\setnowidow}[1][]{}

\noclub  [\langle lines\rangle]
\setnoclub  [\langle lines\rangle]
4 \newcommand*{\noclub}[1][]{}
5 \newcommand*{\setnoclub}[1][]{}
```

File 292 **l warp-ntheorem.sty**

§ 392 Package **ntheorem**

(Emulates or patches code by WOLFGANG MAY, ANDREAS SCHEDLER.)

Pkg ntheorem ntheorem is patched for use by l warp.

Table 15: Ntheorem package — css styling of theorems and proofs

Theorem: <div> of class theorembody<theoremstyle>

Theorem Header: of class theoremheader<style>

where <theoremstyle> is plain, break, etc.

§ 392.1 Limitations

- ⚠ **Font control** This conversion is not total. Font control is via css, and the custom L^AT_EX font settings are ignored.
- ⚠ **Equation numbering** `ntheorem` has a bug with equation numbering in *AMS* environments when the option `thref` is used. `l warp` does not share this bug, so equations with `\split`, etc, are numbered correctly with `l warp`'s HTML output, but not with the print output. It is recommended to use `cleveref` instead of `ntheorem`'s `thref` option.

§ 392.2 Options

Options `amsthm` or `standard` choose which set of theorems and proofs to initialize.

- ⚠ **Disabled options** The options `thmarks` and `amsmath` are disabled, since they heavily modify the underlying math code. Theorem marks are emulated. The AMS-math modifications are not done.

Option `thref` is disabled because `cleveref` functions are used instead. `\thref` is emulated.

Option `hyperref` is disabled because `l warp` emulated `hyperref`.

for HTML output: Some disabled options:

```
1 \DeclareOption{thref}{}  
2  
3  
4 \newbool{LWR@ntheoremmarks}  
5 \boolfalse{LWR@ntheoremmarks}  
6  
7 \DeclareOption{thmarks}{}  
8 \booltrue{LWR@ntheoremmarks}  
9 \newif\ifsetendmark\setendmarktrue  
10 }  
11  
12  
13 \newbool{LWR@ntheoremamsthm}  
14 \boolfalse{LWR@ntheoremamsthm}  
15  
16 \DeclareOption{amsthm}{\booltrue{LWR@ntheoremamsthm}}  
17  
18  
19 \DeclareOption{amsmath}{}  
20 \DeclareOption{hyperref}{}  
21  
22 \LWR@ProvidesPackagePass{ntheorem}[2011/08/15]
```

§ 392.3 Remembering the theorem style

Storage for the style being used for new theorems.

```

23 \newcommand{\LWR@newtheoremstyle}[plain]

24 \AtBeginDocument{
25 @ifpackageloaded{cleveref}{
26 \gdef@\thm#1#2#3{%
27   \if@thmmarks
28     \stepcounter{end\InTheoType ctr}%
29   \fi
30   \renewcommand{\InTheoType}{#1}%
31   \if@thmmarks
32     \stepcounter{curr#1ctr}%
33     \setcounter{end#1ctr}{0}%
34   \fi
35   \refstepcounter[#1]{#2}%
36   <<< cleveref modification
37   \theorem@prework
38   \LWR@forcenewpage% lwarp
39   \BlockClass{\theorembody#1}\LWR@thisthmstyle% lwarp
40   \trivlist % latex's \trivlist, calling latex's \@trivlist unchanged
41   \ifuse@newframeskips % cf. latex.ltx for topsepadd: \@trivlist
42     \ifthm@inframe
43       \thm@topsep\theoreminframepreskipamount
44       \thm@topsepadd\theoreminframepostskipamount
45     \else
46       \thm@topsep\theorempreskipamount
47       \thm@topsepadd\theorempostskipamount
48     \fi
49   \else% oldframeskips
50     \thm@topsep\theorempreskipamount
51     \thm@topsepadd \theorempostskipamount
52     \ifvmode\advance\thm@topsepadd\partopsep\fi
53   \fi
54   \atopsep\thm@topsep
55   \atopsepadd\thm@topsepadd
56   \advance\linewidth -\theorem@indent
57   \advance\linewidth -\theorem@rightindent
58   \advance\@totalleftmargin \theorem@indent
59   \parshape \one \@totalleftmargin \linewidth
60   @ifnextchar[{\@ythm{#1}{#2}{#3}}{\@xthm{#1}{#2}{#3}}}
61 }%
62 \gdef@\thm#1#2#3{%
63   \if@thmmarks
64     \stepcounter{end\InTheoType ctr}%
65   \fi
66   \renewcommand{\InTheoType}{#1}%
67   \if@thmmarks
68     \stepcounter{curr#1ctr}%
69     \setcounter{end#1ctr}{0}%
70   \fi
71   \refstepcounter{#2}%
72   \theorem@prework

```

```

73   \LWR@forcenewpage% l warp
74   \BlockClass{theorembody#1}\LWR@thisthmstyle% l warp
75   \trivlist % latex's \trivlist, calling latex's \@trivlist unchanged
76   \ifuse@newframeskips % cf. latex.ltx for topsepadd: \@trivlist
77     \ifthm@inframe
78       \thm@topsep\theoreminframepreskipamount
79       \thm@topsepadd\theoreminframepostskipamount
80     \else
81       \thm@topsep\theorempreskipamount
82       \thm@topsepadd\theorempostskipamount
83     \fi
84   \else% oldframeskips
85     \thm@topsep\theorempreskipamount
86     \thm@topsepadd \theorempostskipamount
87     \ifvmode\advance\thm@topsepadd\partopsep\fi
88   \fi
89   \atopsep\thm@topsep
90   \atopsepadd\thm@topsepadd
91   \advance\linewidth -\theorem@indent
92   \advance\linewidth -\theorem@rightindent
93   \advance\@totalleftmargin \theorem@indent
94   \parshape \one \@totalleftmargin \linewidth
95   \@ifnextchar[{\@ythm{#1}{#2}{#3}}{\@xthm{#1}{#2}{#3}}
96 }
97 }
98 }% AtBeginDocument

```

Patched to remember the style being used for new theorems:

```

99 \gdef\theoremstyle#1{%
100   \@ifundefined{th@#1}{\@warning
101     {Unknown theoremstyle '#1'. Using 'plain'}%
102     \theorem@style{plain}
103     \renewcommand{\LWR@newtheoremstyle}{plain}% l warp
104   }%
105   {
106     \theorem@style{#1}
107     \renewcommand{\LWR@newtheoremstyle}{#1}% l warp
108   }
109 }

```

Patched to remember the style for this theorem type, and set it later when the environment is started.

```

110
111 \gdef\xnthm#1#2[#3]{%
112   \ifthm@tempif
113     \csedef{\LWR@thmstyle#1}{\LWR@newtheoremstyle}% l warp
114     \expandafter\@ifundefined{c@#1}%
115       {\@definecounter{#1}}{}%
116     \@newctr{#1}[#3]%
117     \expandafter\xdef\csname the#1\endcsname{%
118       \expandafter\noexpand\csname the#3\endcsname \thmcOUNTERsep
119       {\noexpand\csname\the\theoremNUMBERING\endcsname{#1}}}%
120     \expandafter\gdef\csname mkheader@#1\endcsname

```

```

121      {\csname setparms@\#1\endcsname
122       \@thm{\#1}{\#1}{\#2}
123       }%
124      \global\@namedef{end#1}{\@endtheorem}
125      \AtBeginEnvironment{\#1}{\edef\LWR@thisthmstyle{\@nameuse{LWR@thmstyle#1}}}\% lwarp
126      \fi
127  }
128
129 \gdef\@ynthm#1#2{%
130   \ifthm@tempif
131     \csedef{\LWR@thmstyle#1}{\LWR@newtheoremstyle}\% lwarp
132     \expandafter\@ifundefined{c@#1}%
133       {\@definecounter{#1}}{%
134         \expandafter\xdef\csname the\#1\endcsname
135           {\noexpand\csname the\the\theoremnumbering\endcsname{#1}}%
136         \expandafter\gdef\csname mkheader@\#1\endcsname
137           {\csname setparms@\#1\endcsname
138             \@thm{\#1}{\#1}{\#2}
139             }%
140           \global\@namedef{end#1}{\@endtheorem}
141           \AtBeginEnvironment{\#1}{\edef\LWR@thisthmstyle{\@nameuse{LWR@thmstyle#1}}}\% lwarp
142           \fi
143  }
144
145 \gdef\@othm#1[#2]#3{%
146   \@ifundefined{c@#2}{\@nocounterr{#2}}{%
147     \ifthm@tempif
148       \csedef{\LWR@thmstyle#1}{\LWR@newtheoremstyle}\% lwarp
149       \global\@namedef{the\#1}{\@nameuse{the\#2}}%
150       \expandafter\protected\xdef\csname num@addtheoremline#1\endcsname{%
151         \noexpand\@num@addtheoremline{#1}{#3}}%
152       \expandafter\protected\xdef\csname nonum@addtheoremline#1\endcsname{%
153         \noexpand\@nonum@addtheoremline{#1}{#3}}%
154       \theoremkeyword{#3}%
155       \expandafter\protected\xdef\csname #1Keyword\endcsname
156         {\the\theoremkeyword}%
157       \expandafter\gdef\csname mkheader@\#1\endcsname
158         {\csname setparms@\#1\endcsname
159           \@thm{\#1}{\#2}{\#3}
160           }%
161           \global\@namedef{end#1}{\@endtheorem}
162           \AtBeginEnvironment{\#1}{\edef\LWR@thisthmstyle{\@nameuse{LWR@thmstyle#1}}}\% lwarp
163           \fi
164  }

```

§ 392.4 HTML cross-referencing

Mimics a float by incrementing the float counter and generating an HTML anchor. These are used for list-of-theorem cross-references.

```

165 \newcommand{\LWR@inctheorem}{%
166 \addtocounter{\LWR@thisautoid}{1}%
167 \LWR@stoppars%
168 \LWR@htmltag{a id="\LWR@print@mbox{autoid-\arabic{\LWR@thisautoid}}"\LWR@htmltag{/a}}%
169 \LWR@startpars%

```

170 }

§ 392.5 \newtheoremstyle

The following are patched for css.

These were in individual files thp.sty for plain, thmb.sty for margin break, etc. They are gathered together here.

Each theorem is encased in a BlockClass environment of class theorembody<style>.

Each header is encased in an \InlineClass of class theoremheader<style>.

```

171 \gdef\newtheoremstyle#1#2#3{%
172   \expandafter\ifundefined{th@#1}%
173   { \expandafter\gdef\csname th@#1\endcsname{%
174     \def\@begintheorem####1####2{%
175       \LWR@inctheorem% lwarf
176       #2}%
177       \def\@opargbegintheorem####1####2####3{%
178         \LWR@inctheorem% lwarf
179         #3}%
180     }%
181   }%
182 {\PackageError{\basename}{Theorem style #1 already defined}\@eha}%
183 }
```

§ 392.6 Standard styles

```

184 \renewtheoremstyle{plain}%
185   {\item[
186     \InlineClass{theoremheaderplain}{##1\ ##2\theorem@separator}]}%
187   {\item[
188     \InlineClass{theoremheaderplain}{##1\ ##2\ (###3)\theorem@separator}]}%
189
190 \renewtheoremstyle{break}%
191   {\item[
192     \InlineClass{theoremheaderbreak}{##1\ ##2\theorem@separator}\newline
193   ]}%
194   {\item[
195     \InlineClass{theoremheaderbreak}%
196     {##1\ ##2\ (###3)\theorem@separator}\newline
197   ]}%
198
199 \renewtheoremstyle{change}%
200   {\item[
201     \InlineClass{theoremheaderchange}{##2\ ##1\theorem@separator}]}%
202   {\item[
203     \InlineClass{theoremheaderchange}{##2\ ##1\ (###3)\theorem@separator}]}%
204
205 \renewtheoremstyle{changebreak}%
206   {\item[
207     \InlineClass{theoremheaderchangebreak}%
208     {##2\ ##1\theorem@separator}\newline
209   ]}%

```

```

210  {\item[
211      \InlineClass{theoremheaderchangebreak}%
212      {##2\ ##1\ (##3)\theorem@separator}\newline
213  ]}
214
215 \renewtheoremstyle{margin}%
216  {\item[
217      \InlineClass{theoremheadermargin}{##2 \qquad ##1\theorem@separator}%
218  ]}
219  {\item[
220      \InlineClass{theoremheadermargin}{##2 \qquad ##1\ (##3)\theorem@separator}%
221  ]}
222
223 \renewtheoremstyle{marginbreak}%
224  {\item[
225      \InlineClass{theoremheadermarginbreak}%
226      {##2 \qquad ##1\theorem@separator}\newline
227  ]}
228  {\item[
229      \InlineClass{theoremheadermarginbreak}%
230      {##2 \qquad ##1\ (##3)\theorem@separator}\newline
231  ]}
232
233 \renewtheoremstyle{nonumberplain}%
234  {\item[
235      \InlineClass{theoremheaderplain}{##1\theorem@separator}]}%
236  {\item[
237      \InlineClass{theoremheaderplain}{##1\ (##3)\theorem@separator}]}%
238
239 \renewtheoremstyle{nonumberbreak}%
240  {\item[
241      \InlineClass{theoremheaderbreak}{##1\theorem@separator}\newline
242  ]}
243  {\item[
244      \InlineClass{theoremheaderbreak}{##1\ (##3)\theorem@separator}\newline
245  ]}
246
247 \renewtheoremstyle{empty}%
248  {\item[]}%
249  {\item[
250      \InlineClass{theoremheaderplain}{##3}]}%
251
252 \renewtheoremstyle{emptybreak}%
253  {\item[]}%
254  {\item[
255      \InlineClass{theoremheaderplain}{##3}]\ \newline}

```

§ 392.7 Additional objects

The following manually adjust the css for the standard configuration objects which are not a purely plain style:

```
256 \ifbool{LWR@ntheoremamsthm}{}{%
```

Upright text via CSS:

```

257 \newtheoremstyle{plainupright}%
258 {\item[
259   \InlineClass{theoremheaderplain}{##1\ ##2\theorem@separator}]}%
260 {\item[
261   \InlineClass{theoremheaderplain}{##1\ ##2\ (###3)\theorem@separator}]}%
```

Upright text and small caps header via CSS:

```

262 \newtheoremstyle{nonumberplainuprightsc}%
263 {\item[
264   \InlineClass{theoremheadersc}{##1\theorem@separator}]}%
265 {\item[
266   \InlineClass{theoremheadersc}{##1\ (###3)\theorem@separator}]}%
267 }% not amsthm
```

§ 392.8 Renewed standard configuration

The following standard configuration is renewed using the new css:

```

268 \ifbool{LWR@ntheoremamsthm}{}{%
269 \ifx\thm@usestd@\undefined
270 \else
271   \theoremnumbering{arabic}
272   \theoremstyle{plain}
273   \RequirePackage{latexsym}
274   \theoremsymbol{\Box}
275   \theorembodyfont{\itshape}
276   \theoremheaderfont{\normalfont\bfseries}
277   \theoremseparator{}
278   \renewtheorem{Theorem}{Theorem}
279   \renewtheorem{theorem}{Theorem}
280   \renewtheorem{Satz}{Satz}
281   \renewtheorem{satz}{Satz}
282   \renewtheorem{Proposition}{Proposition}
283   \renewtheorem{proposition}{Proposition}
284   \renewtheorem{Lemma}{Lemma}
285   \renewtheorem{lemma}{Lemma}
286   \renewtheorem{Korollar}{Korollar}
287   \renewtheorem{korollar}{Korollar}
288   \renewtheorem{Corollary}{Corollary}
289   \renewtheorem{corollary}{Corollary}
290
291   \theoremstyle{plainupright}
292   \theorembodyfont{\upshape}
293   \theoremsymbol{\HTMLUnicode{25A1}}% UTF-8 white box
294   \renewtheorem{Example}{Example}
295   \renewtheorem{example}{Example}
296   \renewtheorem{Beispiel}{Beispiel}
297   \renewtheorem{beispiel}{Beispiel}
298   \renewtheorem{Bemerkung}{Bemerkung}
299   \renewtheorem{bemerkung}{Bemerkung}}
```

```

300  \renewtheorem{Anmerkung}{Anmerkung}
301  \renewtheorem{anmerkung}{Anmerkung}
302  \renewtheorem{Remark}{Remark}
303  \renewtheorem{remark}{Remark}
304  \renewtheorem{Definition}{Definition}
305  \renewtheorem{definition}{Definition}
306
307  \theoremstyle{nonumberplainuprightsc}
308  \theoremsymbol{\HTMLunicode{220E}}% UTF-8 end-of-proof
309  \renewtheorem{Proof}{Proof}
310  \renewtheorem{proof}{Proof}
311  \renewtheorem{Beweis}{Beweis}
312  \renewtheorem{beweis}{Beweis}
313  \qedsymbol{\HTMLunicode{220E}}% UTF-8 end-of-proof
314
315  \theoremsymbol{}
316 \fi
317 }% not amsthm

```

§ 392.9 **amsthm option**

Only if the `amsthm` option was given:

```

318 \ifbool{LWR@ntheoremamsthm}{
319
320 \gdef\th@plain{%
321   \def\theorem@headerfont{\normalfont\bfseries}\itshape%
322   \def\@begintheorem##1##2{%
323     \LWR@inctheorem% l warp
324     \item[%
325       \InLineClass{theoremheaderplain}{##1\ ##2.}%
326     ]}%
327   \def\@opargbegintheorem##1##2##3{%
328     \LWR@inctheorem% l warp
329     \item[%
330       \InLineClass{theoremheaderplain}{##1\ ##2\ (###3).}%
331     ]}}%
332
333 \gdef\th@nonumberplain{%
334   \def\theorem@headerfont{\normalfont\bfseries}\itshape%
335   \def\@begintheorem##1##2{%
336     \LWR@inctheorem% l warp
337     \item[%
338       \InLineClass{theoremheaderplain}{##1.}%
339     ]}%
340   \def\@opargbegintheorem##1##2##3{%
341     \LWR@inctheorem% l warp
342     \item[%
343       \InLineClass{theoremheaderplain}{##1\ (###3).}%
344     ]}}%
345
346 \gdef\th@definition{%
347   \def\theorem@headerfont{\normalfont\bfseries}\normalfont%
348   \def\@begintheorem##1##2{%
349     \LWR@inctheorem% l warp

```

```
350      \item[
351      \InlineClass{theoremheaderdefinition}{##1\ ##2.}
352      ]}%
353 \def\@opargbegintheorem##1##2##3{%
354     \LWR@inctheorem% l warp
355     \item[
356     \InlineClass{theoremheaderdefinition}{##1\ ##2\ (###3).}
357     ]}%
358
359 \gdef\th@nonumberdefinition{%
360   \def\theorem@headerfont{\normalfont\bfseries}\normalfont%
361   \def\@begintheorem##1##2{%
362     \LWR@inctheorem% l warp
363     \item[
364     \InlineClass{theoremheaderdefinition}{##1.}
365     ]}%
366   \def\@opargbegintheorem##1##2##3{%
367     \LWR@inctheorem% l warp
368     \item[
369     \InlineClass{theoremheaderdefinition}{##1\ (###3).}
370     ]}%
371
372 \gdef\th@remark{%
373   \def\theorem@headerfont{\itshape}\normalfont%
374   \def\@begintheorem##1##2{%
375     \LWR@inctheorem% l warp
376     \item[
377     \InlineClass{theoremheaderremark}{##1\ ##2.}
378     ]}%
379   \def\@opargbegintheorem##1##2##3{%
380     \LWR@inctheorem% l warp
381     \item[
382     \InlineClass{theoremheaderremark}{##1\ ##2\ (###3).}
383     ]}%
384
385 \gdef\th@nonumberremark{%
386   \def\theorem@headerfont{\itshape}\normalfont%
387   \def\@begintheorem##1##2{%
388     \LWR@inctheorem% l warp
389     \item[
390     \InlineClass{theoremheaderremark}{##1.}
391     ]}%
392   \def\@opargbegintheorem##1##2##3{%
393     \LWR@inctheorem% l warp
394     \item[
395     \InlineClass{theoremheaderremark}{##1\ (###3).}
396     ]}%
397
398 \gdef\th@proof{%
399   \def\theorem@headerfont{\normalfont\bfseries}\itshape%
400   \def\@begintheorem##1##2{%
401     \LWR@inctheorem% l warp
402     \item[
403     \InlineClass{theoremheaderproof}{##1.}
404     ]}%
```

```

405 \def@opargbegintheorem##1##2##3{%
406     \LWR@inctheorem% l warp
407     \item[
408     \InlineClass{theoremheaderproof}{##1\ (###3).}
409     ]{}}
410
411
412
413 \newcounter{proof}%
414 \if@thmmarks
415     \newcounter{currproofctr}%
416     \newcounter{endproofctr}%
417 \fi
418
419 \gdef\proofSymbol{\openbox}
420
421 \newcommand{\proofname}{Proof}
422
423 \newenvironment{proof}[1][\proofname]{%
424     \th@proof
425     \def\theorem@headerfont{\itshape}%
426     \normalfont
427     \theoremsymbol{\HTMLunicode{220E}}% UTF-8 end-of-proof
428     \ethm{proof}{proof}{#1}
429 }%
430 {\@endtheorem}
431
432 }{}% amsthm option

```

§ 392.10 Ending a theorem

Patched for css:

```

433 \let\LWR@origendtheorem\@endtheorem
434 \renewcommand{\@endtheorem}{%
435 \ifbool{\LWR@ntheoremmarks}{%
436     \ifsetendmark%
437         \InlineClass{theoremendmark}{\csname\InTheoType Symbol\endcsname}%
438         \setendmarkfalse%
439     \fi%
440 }{}%
441 \LWR@origendtheorem% also does \endtrivlist
442 \ifbool{\LWR@ntheoremmarks}{\global\setendmarktrue}{()}%
443 \endBlockClass%
444 }

```

§ 392.11 \NoEndMark

```
445 \gdef\NoEndMark{\global\setendmarkfalse}
```

§ 392.12 List-of

Redefined to reuse the float mechanism to add list-of-theorem links:

```
\thm@thmline {\langle 1: printed type\rangle} {\langle 2: #\rangle} {\langle 3: optional\rangle} {\langle 4: page\rangle}
```

```
446 \renewcommand{\thm@thmline@noname}[4]{%
447 \hypertocfloat{1}{theorem}{thm}{#2 #3}{}}%
448 }
449
450 \renewcommand{\thm@thmline@name}[4]{%
451 \hypertocfloat{1}{theorem}{thm}{#1 #2 #3}{}}%
452 }
```

This was redefined by `ntheorem` when loaded, so it is now redefined for `l warp`:

```
453 \def\thm@thmline{\thm@thmline@name}
```

Patch for `css`:

```
454 \def\listtheorems#1{
455 \LWR@htmlelementclass{nav}{lothm}%
456 \begingroup
457 \c@tocdepth=-2%
458 \def\thm@list{\#1}\thm@processlist
459 \endgroup
460 \LWR@htmlelementclassend{nav}{lothm}%
461 }
```

§ 392.13 Symbols

Proof QED symbol:

```
462 \newcommand{\qed}{\qquad\the\qedsymbol}
463
464 \AtBeginDocument{
465 \@ifundefined{LWR@orig@openbox}{
466 \LetLtxMacro{\LWR@orig@openbox}{\openbox}
467 \LetLtxMacro{\LWR@orig@blacksquare}{\blacksquare}
468 \LetLtxMacro{\LWR@orig@Box}{\Box}
469
470 \def\openbox{\text{\HTMLunicode{25A1}}}% UTF-8 white box
471 \def\blacksquare{\text{\HTMLunicode{220E}}}% UTF-8 end-of-proof
472 \def\Box{\text{\HTMLunicode{25A1}}}% UTF-8 white box
473
474 \appto{\LWR@restoreorigformatting}{%
475 \LetLtxMacro{\openbox}{\LWR@orig@openbox}%
476 \LetLtxMacro{\blacksquare}{\LWR@orig@blacksquare}%
477 \LetLtxMacro{\Box}{\LWR@orig@Box}%
478 }% appto
```

```
479 }{ }% @ifundefined
480 }% AtBeginDocument
```

§ 392.14 Cross-referencing

```
\thref {\langle label \rangle}

481 \newcommand*{\thref}[1]{\cref{#1}}%
```

File 293 **l warp-octave.sty**

§ 393 Package **octave**

(Emulates or patches code by ANDREW A. CASHNER.)

Pkg octave octave is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{octave}[2017/10/31]

Remove the leading 1pt kern:

```
2 \RenewDocumentCommand{\@PrintTicks}{ m }{%
3 \kern-1pt% l warp
4 \@TickNum = #1%
5 \loop
6 \@Tick{}%
7 \advance\@TickNum by -1
8 \ifnum\@TickNum > 0
9 \repeat
10 }
```

Use unicode for the prime character:

```
11 \RenewDocumentCommand{\@Tick}{}{\text{\textnormal{2032}}}
```

Catch the inline font:

```
12 \RenewDocumentCommand{\pitch}{ m o m }{%
13 \if@OctaveNumber%
14 {%
15     \pitchfont{%
16         \LWR@textcurrentfont% l warp
17         \MakeUppercase{#1}%
18         \IfValueTF{#2}{#2}{\textsubscript{#3}}%
19     }%
20 }%
21 }%
22 \else%
23 {%
24     \pitchfont{%
25         \LWR@textcurrentfont% l warp
26         \GetOctaveTick{#1}{#2}{#3}%
27     }%
28 }%
29 }%
30 }
```

```

27      }%
28      }%
29 }%
30 \fi%
31 }

```

The original was hard to adapt to l warp's handling of &.

```

32 \StartDefiningTabulars
33 \renewcommand{\octavetable}{%
34 \begin{tabular}{ll}
35 \octaveprimes \pitch{C}{0} & \octavenumbers \pitch{C}{0} \\
36 \octaveprimes \pitch{C}{1} & \octavenumbers \pitch{C}{1} \\
37 \octaveprimes \pitch{C}{2} & \octavenumbers \pitch{C}{2} \\
38 \octaveprimes \pitch{C}{3} & \octavenumbers \pitch{C}{3} \\
39 \octaveprimes \pitch{C}{4} & \octavenumbers \pitch{C}{4} \\
40 \octaveprimes \pitch{C}{5} & \octavenumbers \pitch{C}{5} \\
41 \octaveprimes \pitch{C}{6} & \octavenumbers \pitch{C}{6} \\
42 \octaveprimes \pitch{C}{7} & \octavenumbers \pitch{C}{7} \\
43 \end{tabular}
44 }
45 \StopDefiningTabulars

```

File 294 **l warp-overpic.sty**

§ 394 Package **overpic**

(Emulates or patches code by ROLF NIEPRASCHK.)

Pkg overpic overpic is patched for use by l warp.

⚠ **scaling** The macros \overpicfontsize and \overpicfontskip are used during HTML generation. These are sent to \fontsize to adjust the font size for scaling differences between the print and HTML versions of the document. Renew these macros before using the overpic and Overpic environments.

See section 84.2 for the print-mode version of \overpicfontsize and \overpicfontskip.

for HTML output: 1 \LWR@ProvidesPackagePass{overpic}[2017/10/06]

```

2 \newcommand*\overpic[1]{\overpic[width=1cm]{#1}}
3 \newcommand*\overpic[2]{\overpic[width=1cm]{#1}\overpic[height=1cm]{#2}}
4
5 \BeforeBeginEnvironment{overpic}{%
6   \begin{lateximage}%
7     \fontsize{\overpicfontsize}{\overpicfontskip}%
8     \selectfont%
9   }%
10
11 \AfterEndEnvironment{overpic}{\end{lateximage}}%
12
13 \BeforeBeginEnvironment{Overpic}{%

```

```

14 \begin{lateximage}%
15 \fontsize{\overpicfontsize}{\overpicfontskip}%
16 \selectfont%
17 }%
18 \AfterEndEnvironment{Overpic}{\end{lateximage}}

```

File 295 **l warp-pagegrid.sty**

§ 395 Package **pagegrid**

Pkg pagegrid pagegrid is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pagegrid}[2016/05/16]

2 \newcommand*\{pagegridsetup}[1]{}

File 296 **l warp-pagenote.sty**

§ 396 Package **pagenote**

Pkg pagenote pagenote works as-is, but the page option is disabled.

for HTML output: 1 \DeclareOption{page}{}
2 \LWR@ProvidesPackagePass{pagenote}[2009/09/03]

For MATHJAX:

```

3 \begin{warpMathJax}
4 \appto\lwr@syncnotenumbers{\lwr@syncnotenumber{\lwrpagenote}{\thepagenote}}
5 \CustomizeMathJax{\def\lwrpagenote{1}}
6 \CustomizeMathJax{\newcommand{\pagenote}[2][\lwrpagenote]{{}^{\mathsf{#1}}}}
7 \end{warpMathJax}

```

There is no \pagenotemark, so the following are not required:

```

\providecommand{\pagenotename}{pagenote}
\appto\lwr@syncnotenames{\lwr@syncnotename{\lwrpagenote}{\pagenotename}}

```

File 297 **l warp-pagesel.sty**

§ 397 Package **pagesel**

Pkg pagesel pagesel is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pagesel}[2016/05/16]

File 298 l warp-paralist.sty**§ 398 Package paralist**

(Emulates or patches code by BERND SCHANDL.)

Pkg paralist paralist is supported with minor changes.

for HTML output: 1 \LWR@ProvidesPackagePass{paralist}[2017/01/22]

The compact environments are identical to the regular ones:

```
2 \LetLtxMacro\compactitem\itemize
3 \LetLtxMacro\compactenum\enumerate
4 \LetLtxMacro\compactdesc\description
5 \LetLtxMacro\endcompactitem\enditemize
6 \LetLtxMacro\endcompactenum\endenumerate
7 \LetLtxMacro\endcompactdesc\enddescription
```

For the inline environments, revert \item to its original print-mode version:

```
8 \AtBeginEnvironment{inparaitem}{\LetLtxMacro\item\lwr@origitem}
9 \AtBeginEnvironment{inparaenum}{\LetLtxMacro\item\lwr@origitem}
10 \AtBeginEnvironment{inparadesc}{\LetLtxMacro\item\lwr@origitem}
```

Manual formatting of the description labels:

```
11 \def\paradescriptionlabel#1{{\normalfont\textrm{\bfseries}#1}}
```

File 299 l warp-parallel.sty**§ 399 Package parallel**

(Emulates or patches code by MATTHIAS ECKERMANN.)

Pkg parallel parallel is emulated.

Package options are ignored. Footnotes are treated as normal l warp footnotes.

Environment option c gives side-by-side <div>s of class minipage, each of whose width is a percent depending on the given left and right widths, proportional to \ linewidth.

Inside each environment, \ linewidth and \ textwidth are set for the print-output sizes.

for HTML output: Discard all options for l warp-parallel:

```
1 \LWR@ProvidesPackageDrop{parallel}[2003/04/13]
```

```
2 \newcounter{LWR@parallel@Lwidth}
3 \newcounter{LWR@parallel@Rwidth}
4 \newcommand*{\LWR@parallel@border}{}
5
6 \newenvironment*{Parallel}[3][]%
7   {%
8     \LWR@printpendingfootnotes%
9     \setlength{\linewidth}{\LWR@userstextwidth}%
10    \setlength{\textwidth}{\LWR@userstextwidth}%
11    \renewcommand*{\LWR@parallel@border}{}%
12    \ifstreq{\#1}{v}%
13      {%
14        \renewcommand*{\LWR@parallel@border}{{; border-left: 2px solid black}}%
15      }%
16    {}%
17    \ifblank{\#2}%
18      \ifblank{\#3}{}{%
19        \setcounter{LWR@parallel@Lwidth}{45}%
20        \setcounter{LWR@parallel@Rwidth}{45}%
21      }{}{%
22        \setlength{\LWR@templengthone}{\linewidth-#3}%
23        \setcounter{LWR@parallel@Lwidth}{%
24          90*\ratio{\LWR@templengthone}{\linewidth}%
25        }%
26        \setcounter{LWR@parallel@Rwidth}{%
27          90*\ratio{\#3}{\linewidth}%
28        }%
29      }%
30      \setlength{\LWR@templengthone}{\linewidth-#3}%
31    }% #2 blank
32    {%
33      \ifblank{\#3}{}{%
34        \setcounter{LWR@parallel@Lwidth}{%
35          90*\ratio{\#2}{\linewidth}%
36        }%
37        \setlength{\LWR@templengthone}{\linewidth-#2}%
38        \setcounter{LWR@parallel@Rwidth}{%
39          90*\ratio{\LWR@templengthone}{\linewidth}%
40        }%
41        \setlength{\LWR@templengthone}{\linewidth-#2}%
42        \setcounter{LWR@parallel@Lwidth}{%
43          90*\ratio{\#2}{\linewidth}%
44        }%
45        \setcounter{LWR@parallel@Rwidth}{%
46          90*\ratio{\#3}{\linewidth}%
47        }%
48      }%
49      \setlength{\LWR@templengthone}{\linewidth-#2}%
50    }% #2 non-blank
51  }%
52  {%
53    \ParallelAtEnd%
54    \renewcommand*{\ParallelAtEnd}{}%
55    \LWR@printpendingfootnotes%
56  }
```

```

57
58 \newcommand*{\ParallelText}[1]{%
59   \begin{BlockClass}[%]
60     width:\arabic{LWR@parallel@Lwidth}\% ; % space
61     padding: .5ex 1\% ; % space
62   ]{\minipage}%
63   #1%
64   \end{BlockClass}%
65 }
66
67 \newcommand*{\ParallelRText}[1]{%
68   \begin{BlockClass}[%]
69     width:\arabic{LWR@parallel@Rwidth}\% ; % space
70     padding: .5ex 1\% ; % space
71     \LWR@parallel@border%
72   ]{\minipage}%
73   #1%
74   \end{BlockClass}%
75 }
76
77 \newcommand*{\ParallelPar}{\LWR@printpendingfootnotes}
78
79 \newcommand*{\ParallelAtEnd}{}

```

File 300 **lwarp-parcolumns.sty**

§ 400 Package **parcolumns**

(Emulates or patches code by JONATHAN SAUER.)

Pkg **parcolumns** **parcolumns** is emulated.

rulebetween is honored. The other keys are ignored, including **colwidths**.

Each column is placed inside a **<div>** of class **minipage**, each of whose width is fixed at 85% divided by the number of columns. In most cases, this results in side-by-side minipages adapting to the browser width. Inside each minipage, **\linewidth**, **\textwidth**, and **\textheight** are set for a virtual 6 × 9 inch page, with **\linewidth** divided by the number of columns.

for HTML output: Discard all options for **lwarp-parcolumns**:

```

1 \RequirePackage{keyval}%
2
3 \LWR@ProvidesPackageDrop{parcolumns}[2004/11/25]

4 \newcounter{LWR@parcolumns@numcols}
5 \newcounter{LWR@parcolumns@thiscol}
6 \newcounter{LWR@parcolumns@width}
7 \newbool{LWR@parcolumns@started}
8 \newbool{LWR@parcolumns@rule}
9
10 \define@key{LWRparcols}{colwidths}{}

```

```
11 \define@key{LWRparcols}{distance}{}%
12 \define@key{LWRparcols}{rulebetween}[true]{%
13     \setbool{LWR@parcolumns@rule}{#1}%
14 }
15 \define@key{LWRparcols}{nofirstindent}{}%
16 \define@key{LWRparcols}{sloppy}{}%
17 \define@key{LWRparcols}{sloppyspaces}{}%
18
19 \newenvironment*{parcolumns}[2][]{%
20     {%
21         \begin{LWR@setvirtualpage}*[#2]%
22         \setcounter{LWR@parcolumns@numcols}{#2}%
23         \setcounter{LWR@parcolumns@thiscol}{1}%
24         \boolfalse{LWR@parcolumns@started}%
25         \boolfalse{LWR@parcolumns@rule}%
26         \setcounter{LWR@parcolumns@width}{%
27             85/#2
28         }%
29         \setkeys{LWRparcols}{#1}%
30     }%
31     {\end{LWR@setvirtualpage}}%
32
33 \newcommand{\LWR@parcolumns@onecol}[1]{%
34     \ifbool{LWR@parcolumns@started}{%
35         {}%
36     }{%
37         \LWR@htmldivclass{parcolumns}%
38         \booltrue{LWR@parcolumns@started}%
39     }%
40     \ifboolexpr{%
41         bool {LWR@parcolumns@rule} and
42         test {%
43             \ifnumgreater
44                 {\value{LWR@parcolumns@thiscol}}
45                 {1}
46         }%
47     }{%
48         {\renewcommand{\LWR@tempone}{ ; border-left: 2px solid black}}%
49         {\renewcommand{\LWR@tempone}{} }%
50     \begin{BlockClass}[%]
51         width:\arabic{LWR@parcolumns@width}\% ; % space
52         padding: .5ex 1\% ; % space
53         \LWR@tempone%
54     ]{minipage}%
55     #1%
56     \end{BlockClass}%
57     \addtocounter{LWR@parcolumns@thiscol}{1}%
58 }
59
60 \newcommand{\colchunk}[2][\value{LWR@parcolumns@thiscol}]{%
61     \whileboolexpr{%
62         test {%
63             \ifnumcomp%
64                 {\value{LWR@parcolumns@thiscol}}
65                 {<}
66         }{%
67             \ifnumgreater
68                 {\value{LWR@parcolumns@thiscol}}
69                 {#1}
70             \begin{BlockClass}[%]
71                 width:\arabic{LWR@parcolumns@width}\% ; % space
72                 padding: .5ex 1\% ; % space
73                 \LWR@tempone%
74             ]{minipage}%
75             #1%
76             \end{BlockClass}%
77             \addtocounter{LWR@parcolumns@thiscol}{1}%
78         }%
79     }{%
80         \ifnumless
81             {\value{LWR@parcolumns@thiscol}}
82             {#1}
83         \begin{BlockClass}[%]
84             width:\arabic{LWR@parcolumns@width}\% ; % space
85             padding: .5ex 1\% ; % space
86             \LWR@tempone%
87         ]{minipage}%
88         #1%
89         \end{BlockClass}%
90         \addtocounter{LWR@parcolumns@thiscol}{1}%
91     }%
92 }
```

```

66          {#1}%
67      }%
68  }{%
69      \LWR@parcolumns@onecol{}}%
70  }%
71      \LWR@parcolumns@onecol{#2}%
72 }
73
74 \newcommand*{\colplacechunks}{%
75     \ifbool{\LWR@parcolumns@started}{%
76         {%
77             \LWR@htmldivclassend{div}%
78             \boolfalse{\LWR@parcolumns@started}%
79         }%
80     }{%
81     \setcounter{\LWR@parcolumns@thiscol}{1}%
82 }

```

File 301 **l warp-parnotes.sty**

§ 401 Package **parnotes**

(Emulates or patches code by CHELSEA HUGHES.)

Pkg parnotes parnotes is supported with some patches.

for HTML output: 1 \LWR@ProvidesPackagePass{parnotes}[2016/08/15]

```

2 \long\def\PN@parnote@real#1#2{%
3     \parnotemark{#1}%
4     % Unless this is the first parnote in \PN@text, add a separator first
5     \unless\ifx\PN@text\empty\g@addto@macro\PN@text{\parnoteintercmd}\fi
6     % Redefine \@currentlabel to the parnote label, so \label works
7     \g@addto@macro\PN@text{%
8         \phantomsection%
9         \def\@currentlabel{#1}%
10        \def\cref@currentlabel{}           l warp
11        [parnotemark][\arabic{parnotemark}][]\theparnotemark%
12    }%
13 }%
14 \g@addto@macro\PN@text{%
15     \LWR@textcurrentfont{}           l warp
16     \parnotemark{#1}\nolinebreak\thinspace#2%
17 }%
18 }%
19 }
20
21 \def\PN@parnotes@real{%
22     % We call \par later, so this avoids recursion with \PN@parnotes@auto
23     \PN@inparnotestruue
24     \unless\ifvmode\par\fi
25     % Avoid page breaks between a paragraph and its parnotes
26     \nopagebreak\addvspace{\parnotevskip}%

```

```

27   \LWR@forcenewpage%           l warp
28   \begin{BlockClass}{footnotes}% l warp
29   {\parnotefmt{\PN@text}\par}%
30   \end{BlockClass}%           l warp
31   \global\def\PN@text{}%
32   \addvspace{\parnotevskip}%
33   %
34   % These can be enabled or disabled by package options
35   %
36   \PN@disable@indent
37   \PN@reset@optional
38   \PN@inparnotesfalse
39 }
40
41 \AtBeginDocument{
42 \crefname{parnotemark}{paragraph note}{paragraph notes}%
43 \Crefname{parnotemark}{Paragraph note}{Paragraph notes}%
44 }
```

For MATHJAX:

```

45 \begin{warpMathJax}
46 \providecommand{\parnotename}{parnote}
47 \appto{\LWR@syncnotenumbers}{%
48   \addtocounter{parnotemark}{-1}%
49   \LWR@syncnotenumber{\LWRparnote}{\theparnotemark}%
50   \addtocounter{parnotemark}{1}%
51 }
52 \appto{\LWR@syncnotenames}{\LWR@syncnotename{\LWRparnote}{\parnotename}}
53 \CustomizeMathJax{\def{\LWRparnote}{1}}
54 \CustomizeMathJax{\newcommand{\parnote}[2][\LWRparnote]{\{}^{\mathrm{#1}}\}}
55 \CustomizeMathJax{\newcommand{\parnotemark}[1][\LWRparnote]{\{}^{\mathrm{#1}}\}}
56 \end{warpMathJax}
```

File 302 **l warp-parskip.sty**

§ 402 Package **parskip**

Pkg **parskip** **parskip** is ignored.

for HTML output: Discard all options for **l warp-parskip**.

```
1 \LWR@ProvidesPackageDrop{parskip}[2001/04/09]
```

File 303 **l warp-pbox.sty**

§ 403 Package **pbox**

(Emulates or patches code by SIMON LAW.)

Pkg pbox pbox is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{pbox}[2011/12/07]

```
2 \NewDocumentCommand{\pbox}{O{t} O{} O{t} m +m}{%
3 \global\booltrue{LWR@minipagefullwidth}%
4 \parbox[#1][#2][#3]{#4}{#5}%
5 }%
6 %
7 \newcommand{\settominwidth}[3][\columnwidth]{%
8 \setwidht[#2]{#3}%
9 }%
10 %
11 \newcommand{\widthofpbox}[1]{%
12 \widthof{#1}%
13 }
```

File 304 l warp-pdfcol.sty

§ 404 Package pdfcol

Pkg pdfcol pdfcol is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pdfcol}[2018/11/01]

```
2 %
3 \ltx@newif\ifpdfcolAvailable
4 \pdfcolAvailablefalse
5 %
6 \def\pdfcolErrorNoStacks{
7   \PackageInfo{l warp-pdfcol}{Ignoring pdfcol for HTML output.}%
8 }%
9 %
10 \def\pdfcolInitStack#1{}%
11 %
12 \long\def\pdfcolIfStackExists#1#2#3{#3}%
13 %
14 \def\pdfcolSwitchStack#1{}%
15 %
16 \def\pdfcolSetCurrentColor{}%
17 %
18 \def\pdfcolSetCurrent#1{}%
```

File 305 l warp-pdfcolfoot.sty

§ 405 Package pdfcolfoot

Pkg pdfcolfoot pdfcolfoot is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pdfcolfoot}[2016/05/16]

```
2
3 \newcommand*{\pdfcolfoot@switch}{}%
4
5 \newcommand*{\pdfcolfoot@current}{}%
```

File 306 **l warp-pdfcolmk.sty**

§ 406 Package **pdfcolmk**

Pkg pdfcolmk pdfcolmk is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pdfcolmk}[2016/05/16]

File 307 **l warp-pdfcolparallel.sty**

§ 407 Package **pdfcolparallel**

Pkg pdfcolparallel pdfcolparallel is ignored.

for HTML output: 1 \RequirePackage{keyval}%
2
3 \LWR@ProvidesPackageDropA{pdfcolparallel}[2016/05/16]

Pass options to parallel:

```
4 \DeclareOption*{%
5   \PassOptionsToPackage{\CurrentOption}{parallel}%
6 }
```

Process the options:

7 \LWR@ProvidesPackageDropB

Require parallel with the given options:

8 \RequirePackage{parallel}[2003/04/13]

Ignore the new key:

9 \define@key{parallel}{rulebetweencolor}{}

File 308 **l warp-pdfcolparcolumns.sty**

§ 408 Package **pdfcolparcolumns**

Pkg pdfcolparcolumns pdfcolparcolumns is ignored.

for HTML output: 1 \LWR@ProvidesPackageDropA{pdfcolparcolumns}{2016/05/16}

Pass options to parcolumns:

```
2 \DeclareOption*{%
3   \PassOptionsToPackage{\CurrentOption}{parcolumns}%
4 }
```

Process the options:

```
5 \LWR@ProvidesPackageDropB
```

Require parcolumns with the given options:

```
6 \RequirePackage{parcolumns}[2004/11/25]
```

Ignore the new key:

```
7 \define@key{LWRparcols}{rulebetweencolor}{}

---


```

File 309 lwarp-pdfcomment.sty

§ 409 Package pdfcomment

Pkg pdfcomment pdfcomment is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pdfcomment}{2016/06/13}

```
2 \newenvironment{pdfsidelinecomment}[2][]{\begin{minipage}[t]{\textwidth}\leftskip#1\rightskip#2\relax}{\end{minipage}}
```

```
3 \newcommand{\pdfcomment}[2][]{\begin{minipage}[t]{\textwidth}\leftskip#1\rightskip#2\relax\color{black}\footnotesize\bfseries}{\end{minipage}}
```

```
4 \newcommand{\pdfmargincomment}[2][]{\begin{minipage}[t]{\textwidth}\leftskip#1\rightskip#2\relax\color{black}\footnotesize\bfseries}{\end{minipage}}
```

```
5 \newcommand{\pdfmarkupcomment}[3][]{\begin{minipage}[t]{\textwidth}\leftskip#1\rightskip#2\relax\color{black}\footnotesize\bfseries}{\end{minipage}}
```

```
6 \newcommand{\pdffreetextcomment}[2][]{\begin{minipage}[t]{\textwidth}\leftskip#1\rightskip#2\relax\color{black}\footnotesize\bfseries}{\end{minipage}}
```

```
7 \newcommand{\pdfsquarecomment}[2][]{\begin{minipage}[t]{\textwidth}\leftskip#1\rightskip#2\relax\color{black}\footnotesize\bfseries}{\end{minipage}}
```

```
8 \newcommand{\pdfcirclecomment}[2][]{\begin{minipage}[t]{\textwidth}\leftskip#1\rightskip#2\relax\color{black}\footnotesize\bfseries}{\end{minipage}}
```

```
9 \newcommand{\pdflinecomment}[2][]{\begin{minipage}[t]{\textwidth}\leftskip#1\rightskip#2\relax\color{black}\footnotesize\bfseries}{\end{minipage}}
```

```
10 \newcommand{\pdftooltip}[3][]{\begin{minipage}[t]{\textwidth}\leftskip#1\rightskip#2\relax\color{black}\footnotesize\bfseries}{\end{minipage}}
```

```
11 \newcommand{\pdfcommentsetup}[2][]{\begin{minipage}[t]{\textwidth}\leftskip#1\rightskip#2\relax\color{black}\footnotesize\bfseries}{\end{minipage}}
```

```
12 \newcommand{\listofpdfcomments}[1][]{\begin{minipage}[t]{\textwidth}\leftskip#1\rightskip#2\relax\color{black}\footnotesize\bfseries}{\end{minipage}}
```

```
13 \newcommand{\setliststyle}[1][]{\begin{minipage}[t]{\textwidth}\leftskip#1\rightskip#2\relax\color{black}\footnotesize\bfseries}{\end{minipage}}
```

```
14 \newcommand{\defineliststyle}[2][]{\begin{minipage}[t]{\textwidth}\leftskip#1\rightskip#2\relax\color{black}\footnotesize\bfseries}{\end{minipage}}
```

```
15 \newcommand{\defineavatar}[2][]{\begin{minipage}[t]{\textwidth}\leftskip#1\rightskip#2\relax\color{black}\footnotesize\bfseries}{\end{minipage}}
```

```
16 \newcommand{\definestyle}[2][]{\begin{minipage}[t]{\textwidth}\leftskip#1\rightskip#2\relax\color{black}\footnotesize\bfseries}{\end{minipage}}
```

For MATHJAX:

```
17 \begin{warpMathJax}
18 \CustomizeMathJax{\newcommand{\pdfmarkupcomment}[3][]{\#2}}
19 \CustomizeMathJax{\newcommand{\pdftooltip}[3][]{\#2}}
20 \end{warpMathJax}
```

File 310 **l warp-pdfcrypt.sty**

§ 410 Package **pdfcrypt**

Pkg pdfcrypt pdfcrypt is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pdfcrypt}[2016/05/16]
2 \newcommand*\{\pdfcryptsetup}[1]{}

File 311 **l warp-pdflandscape.sty**

§ 411 Package **pdflscape**

Pkg pdflscape pdflscape is ignored.

for HTML output: Discard all options for l warp-pdflscape:

1 \LWR@ProvidesPackageDrop{pdflscape}[2016/05/14]

File 312 **l warp-pdfmarginpar.sty**

§ 412 Package **pdfmarginpar**

Pkg pdfmarginpar pdfmarginpar is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pdfmarginpar}[2011/08/05]
2 \newcommand{\pdfmarginpar}[2]{}
3 \newcommand{\pdfmarginparset}[1]{}

File 313 **l warp-pdfpages.sty**

§ 413 Package **pdfpages**

(Emulates or patches code by ANDREAS MATTHIAS.)

Pkg pdfpages pdfpages is patched for use by l warp.

Option link and linkname work:

```
\hyperlink{<filename>.pdf .<pagenumber>}{some text}
\hyperlink{<linkname>. <pagenumber>}{some text}
```

Options which make no sense in HTML are disabled.

for HTML output: 1 \LWR@ProvidesPackagePass{pdfpages}[2017-10-31]

Disable option which have no meaning for HTML output:

```
2 \define@key{pdfpages}{fitpaper}[false]{}
3 \define@key{pdfpages}{landscape}[false]{}
4 \define@key{pdfpages}{openright}[false]{}
5 \define@key{pdfpages}{signature}(){}
6 \define@key{pdfpages}{signature*}){}
7 \define@key{pdfpages}{booklet}[false]{}
8 \define@key{pdfpages}{rotateoversize}[false]{}
9 \define@key{pdfpages}{doublepages}[false]{}
10 \define@key{pdfpages}{doublepagestwist}[false]{}
11 \define@key{pdfpages}{doublepagestwistodd}[false]{}
12 \define@key{pdfpages}{doublepagestwist*}[false]{}
13 \define@key{pdfpages}{doublepagestwistodd*}[false]{}
14 \define@key{pdfpages}{duplicatepages}[2]{}
15 \define@key{pdfpages}{thread}[false]{}
16 \define@key{pdfpages}{threadname}(){}
17 \define@key{pdfpages}{linkfit}(){}
18 \define@key{pdfpages}{linktodoc}[false]{}
19 \define@key{pdfpages}{linktodocfit}(){}
20 \define@key{pdfpages}{linkfilename}(){}
21 \define@key{pdfpages}{survey}[false]{}
22 \define@key{pdfpages}{survey-nolink}[false]{}
23 \define@key{pdfpages}{newwindow}[false]{}
```

Use print mode while measuring the page numbers:

```
24 \xpretocmd{\AM@getpagecount}{\LWR@restoreorigformatting}{}{}
```

Emulate a bit of **eso-pic**:

```
25 \newif\ifESO@texcoord
26
27 \newcommand{\ESO@HookIIBG}(){}
28
29 \renewcommand{\AM@AddToShipoutPicture}{\g@addto@macro\ESO@HookIIBG}
30
31 \renewcommand{\ClearShipoutPicture}{}{}
```

\LWR@esopic@newpage At each \newpage.

```
32 \newcommand*{\LWR@esopic@newpage}{%
```

Is there something to draw?

```

33 \ifdefvoid{\ESO@HookIIBG}%
34 {}%
35 {}%

```

If the `link` option was specified, add a hyper target:

```

36     \ifAM@link%
37         \hypertarget{\AM@linkname.\AM@page}{}
38     \fi%

```

Draw inside a picture environment of the size of a virtual page:

```

39     \begingroup%
40     \setlength{\unitlength}{1in}%
41     \begin{picture}(8,10.5)%
42     \ESO@HookIIBG%
43     \end{picture}%
44     \endgroup%
45     \global\let\ESO@HookIIBG\empty%
46 }
47 }

```

`\AM@output` Patched to use `\LWR@esopic@newpage`.

```

48 \xpatchcmd{\AM@output}
49   {\newpage}
50   {\LWR@esopic@newpage}
51   {}
52   {\LWR@patcherror{pdfpages}{\AM@output-1}}
53
54 \xpatchcmd{\AM@output}
55   {\newpage}
56   {\LWR@esopic@newpage}
57   {}
58   {\LWR@patcherror{pdfpages}{\AM@output-2}}
59
60 \xpatchcmd{\AM@output}
61   {\newpage}
62   {\LWR@esopic@newpage}
63   {}
64   {\LWR@patcherror{pdfpages}{\AM@output-3}}

```

`\includepdf` Patched to set the user's paper size.

```

65 \xpretocmd{\includepdf}{%
66   \begingroup%
67   \setlength{\paperwidth}{\LWR@userspaperwidth}%
68   \setlength{\paperheight}{\LWR@userspaperheight}%
69 }{}%
70
71 \xapptocmd{\includepdf}{%
72   \endgroup%
73 }{}%

```

`\includepdfmerge` Patched to set the user's paper size.

```
74 \xpretocmd{\includepdfmerge}{%
75   \begingroup%
76   \setlength{\paperwidth}{\LWR@userspaperwidth}%
77   \setlength{\paperheight}{\LWR@userspaperheight}%
78 }{}{%
79
80 \xapptocmd{\includepdfmerge}{%
81   \endgroup%
82 }{}{}
```

\AM@hyper@begin@i Hyper links are created by \LWR@esopic@newpage, so don't create them here:
83 \renewcommand{\AM@hyper@begin@i}{}

File 314 **l warp-pdfprivacy.sty**

§ 414 Package **pdfprivacy**

Pkg pdfprivacy pdfprivacy is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pdfprivacy}[2017/12/03]

File 315 **l warp-pdfrender.sty**

§ 415 Package **pdfrender**

Pkg pdfrender pdfrender is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pdfrender}[2016/05/17]

```
2 \newcommand*{\pdfrender}[1]{}
3 \newcommand{\textpdfrender}[2]{#2}
```

File 316 **l warp-pdfsync.sty**

§ 416 Package **pdfsync**

(Emulates or patches code by J. LAURENS.)

Pkg pdfsync pdfsync is ignored.

for HTML output: Discard all options for l warp-pdfsync:

```
1 \LWR@ProvidesPackageDrop{pdfsync}[2008/01/26]
2 \newcommand*{\pdfsync}{}%
3 \newcommand*{\pdfsyncstart}{}%
4 \newcommand*{\pdfsyncstop}{}%
```

File 317 l warp-pdftricks.sty**§ 417 Package pdftricks**

(Emulates or patches code by C. V. RADHAKRISHNAN, C. V. RAJAGOPAL, ANTOINE CHAMBERT-LOIR.)

Pkg pdftricks pdftricks is patched for use by l warp.

⚠ convert image files The pdftricks image files <jobname>-fig*.pdf must be converted to .svg, or else a missing file error will occur. The image files must also be converted again whenever they change. To convert the images:

Enter ⇒ **l warpmk pdftosvg <jobname>-fig*.pdf**

for HTML output: 1 \LWR@ProvidesPackagePass{pdftricks}[2003/08/10]

Reuse the print-mode images:

2 \def\PDFTfigname{\BaseJobname-fig\thePSfig}

If the .pdf images have not yet been converted to .svg then an error about a missing file will occur. Warn the user to convert the images.

3 \PackageWarning{l warp-pdftricks}{
4 When the pdftricks images change,
5 remember to convert PDF images to SVG using 'l warpmk pdftosvg *-fig.pdf',
6 }
7
8 \AfterEndDocument{\typeout{***}}
9 \AfterEndDocument{\typeout{*** Note: If pdftricks images are not found, new, or updated,}}
10 \AfterEndDocument{\typeout{*** \space use 'l warpmk pdftosvg \BaseJobname-fig*.pdf'}}}
11 \AfterEndDocument{\typeout{***}}

File 318 l warp-pdflx.sty**§ 418 Package pdflx**

Pkg pdflx pdflx is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pdflx}[2017/05/18]

File 319 lwarp-perpage.sty**§ 419 Package perpage**

(Emulates or patches code by DAVID KASTRUP.)

Pkg perpage perpage is mostly ignored, but support is added for footnote counters.

There is no page number in HTML, so most counters are not reset. If the document redefines \the<countername> to include \theperpage, it is necessary to place that redefinition inside a warpprint environment to avoid modifying the HTML definitions.

\AddAbsoluteCounter must not be inside warpprint, as the counter must be added for HTML also, although it is not incremented.

footnote numbering To have footnote numbers reset each time footnotes are printed:

```
\setcounter{footnoteReset}{1}
```

For bigfoot, manyfoot, or perpage:

```
\MakePerPage{footnoteX}  
— or —  
\MakeSortedPerPage{footnoteX}
```

The footnotes are reset when they are printed, according to section level as set by FootnoteDepth, which is not necessarily by HTML page. This is recommended for \alph, \Alph, or \fnsymbol footnotes, due to the limited number of symbols which are available.

for HTML output: 1 \LWR@ProvidesPackageDrop{perpage}[2014/10/25]

```
2 \newcommand\AddAbsoluteCounter[1]  
3 {  
4     \@ifundefined{c@abs#1}{%  
5         \expandafter\newcount\csname c@abs#1\endcsname  
6         \global\value{abs#1}\@ne  
7 %         \global\expandafter\let\csname cl@abs#1\endcsname\@empty  
8         \expandafter\xdef\csname theabs#1\endcsname{  
9             \noexpand\number \csname c@abs#1\endcsname  
10            }%  
11 %         \global\@namedef{c@pabs@#1}{\pp@cl@begin  
12 %         \stepcounter{abs#1}%  
13 %         \pp@cl@end}%  
14 %         \@addtoreset{pabs@#1}{#1}  
15     }  
16     {}  
17 }  
18  
19 \AddAbsoluteCounter{page}  
20 \def\theabspage{1}
```

```

21
22 \newcommand*\MakePerPage[2][1]{%
23     \ifltxcounter{#2Reset}{%
24         \setcounter{#2Reset}{#1}%
25     }{%
26 }
27 }%
28 }
29
30 \newcommand*\MakeSorted[1]{}%
31
32 \newcommand*\MakeSortedPerPage[2][1]{%
33     \ifltxcounter{#2Reset}{%
34         \setcounter{#2Reset}{#1}%
35     }{%
36 }%
37 }
38
39 \newcommand*{\theperpage}{1}

```

File 320 **l warp-pfnote.sty**

§ 420 Package **pfnote**

Pkg pfnote pfnote is ignored.

pfnote pfnote numbers While emulating pfnote, l warp is not able to reset HTML footnote numbers per page number to match the printed version, as HTML has no concept of page numbers. l warp therefore uses continuous footnote numbering even for pfnote.

for HTML output: 1 \LWR@ProvidesPackageDrop{pfnote}[1999/07/14]

File 321 **l warp-phfqit.sty**

§ 421 Package **phfqit**

(Emulates or patches code by PHILIPPE FAIST.)

Pkg phfqit phfqit is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{phfqit}[2017/08/16]

```

2 \LetLtxMacro\LWR@origbitstring\bitstring
3
4 \renewcommand\bitstring[1]{%
5 \InlineClass[%text-decoration: overline underline ;%
6 ]{\bitstring}{#1}%
7 \% \phfqit@bitstring{#1}%
8 }%
9

```

```

10
11 \appto\LWR@restoreorigformatting{%
12 \LetLtxMacro\bitstring\LWR@origbitstring%
13 }

```

File 322 **lwarp-physics.sty**

§ 422 Package **physics**

(Emulates or patches code by SERGIO C. DE LA BARRERA.)

Pkg **physics** **physics** works as-is for HTML with SVG math.

For MATHJAX, emulation is provided via MATHJAX macros. These are not the same as the third-party MATHJAX extension.

- The `notrig` option is honored.
- ⚠ • Starred macros are not yet detected.
- ⚠ • Most macros don't work with `\big`, etc.
- ⚠ • Macros do not auto-detect variable numbers of mandatory arguments. Provide empty {} arguments for those which are not used.
- ⚠ • Many of the macros do not work with auto-detected delimiters. Use the delimiter-specific versions instead. Some macros do not even consider the following arguments, so they may work as expected.
- ⚠ • For `\Re` and `\Im`, the arguments must be in braces.
- For `\functionalderivative`, for the example in the manual with $(E - TS)$, enclose the parens in braces.
- ⚠ • `\expectationvalue` requires and uses two mandatory arguments, unlike the third-party MATHJAX physics extension.
- Each of `\matrixquantity`, `\smallmatrixquantity`, and `\matrixdeterminant` work, while `\identitymatrix` and the following simply print a place-holder, and must be replaced by hand.

for HTML output: 1 `\LWR@ProvidesPackagePass{physics}%` No date is provided by the package.

```

2 % doesn't work with \big, etc:
3 \begin{warpMathJax}
4 \LWR@infoprocessingmathjax{physics}
5
6 \CustomizeMathJax{\newcommand{\quantity}{}}
7 \CustomizeMathJax{\let\qty\quantity}
8 \CustomizeMathJax{\newcommand{\pqty}[1]{\left(#1\right)}}
9 \CustomizeMathJax{\newcommand{\bqty}[1]{\left[\left.#1\right]\right)}}
10 \CustomizeMathJax{\newcommand{\vqty}[1]{\left.\left.#1\right|\right)}}

```

```
11 \CustomizeMathJax{\newcommand{\Bqty}[1]{\left\{ \left. #1 \right. \right\}}}
12
13 % doesn't work with \big, etc., no star
14 \CustomizeMathJax{\newcommand{\absolutevalue}[1]{\left| \left. #1 \right. \right|}}
15 \CustomizeMathJax{\let\abs\absolutevalue}
16
17 % doesn't work with \big, etc., no star
18 \CustomizeMathJax{\newcommand{\norm}[1]{%
19     \left\| \left. #1 \right. \right\|}}
20 }
21
22 % doesn't work with \big, etc., no star, no paren or bracket
23 \CustomizeMathJax{\newcommand{\evaluated}[1]{#1\vert}}
24 \CustomizeMathJax{\let\eval\evaluated}
25
26 % no \Big, star
27 \CustomizeMathJax{\newcommand{\order}[1]{\mathcal{O}\left( \left. #1 \right. \right)}}
```

28

```
29 % no \Big, star
30 \CustomizeMathJax{\newcommand{\commutator}[2]{\left[ \left. #1 , #2 \right. \right]}}
31 \CustomizeMathJax{\let\comm\commutator}
32
33 % no \Big, star
34 \CustomizeMathJax{\newcommand{\anticommutator}[2]{%
35     \left\{ \left. #1 , #2 \right. \right\}}}
36 }
37 \CustomizeMathJax{\let\acomm\anticommutator}
38
39 % no \Big, star
40 \CustomizeMathJax{\let\poissonbracket\anticommutator}
41 \CustomizeMathJax{\let\pb\anticommutator}
42
43 % no star
44 \CustomizeMathJax{\newcommand{\vectorbold}[1]{\mathbf{#1}}}
45 \CustomizeMathJax{\let\vb\vectorbold}
46
47 % no star
48 \CustomizeMathJax{\newcommand{\vectorarrow}[1]{\vec{\mathbf{#1}}}}
49 \CustomizeMathJax{\let\va\vectorarrow}
50
51 % no star
52 \CustomizeMathJax{\newcommand{\vectorunit}[1]{\hat{\mathbf{#1}}}}
53 \CustomizeMathJax{\let\va\vectorunit}
54
55 \CustomizeMathJax{\newcommand{\dotproduct}{\boldsymbol{\cdot}}}
56 \CustomizeMathJax{\let\vdot\dotproduct}
57
58 \CustomizeMathJax{\newcommand{\crossproduct}{\boldsymbol{\times}}}
59 \CustomizeMathJax{\let\cross\crossproduct}
60 \CustomizeMathJax{\let\cp\crossproduct}
61
62 \CustomizeMathJax{\newcommand{\gradient}{\mathbf{\nabla}}}
63 \CustomizeMathJax{\let\grad\gradient}
64
65 \CustomizeMathJax{\let\divisionsymbol\div}
```

```
66
67 \CustomizeMathJax{\newcommand{\divergence}{\nabla\cdot}}
68 \CustomizeMathJax{\let\div\divergence}
69
70 \CustomizeMathJax{\newcommand{\curl}{\nabla\times}}
71
72 \CustomizeMathJax{\newcommand{\laplacian}{\nabla^2}}
73
74 % responds to notrig option
75 \ifx\trigopt 1
76     \CustomizeMathJax{\DeclareMathOperator{\sine}{sin}}
77     \CustomizeMathJax{\DeclareMathOperator{\cosine}{cos}}
78     \CustomizeMathJax{\DeclareMathOperator{\tangent}{tan}}
79     \CustomizeMathJax{\DeclareMathOperator{\cosecant}{csc}}
80     \CustomizeMathJax{\DeclareMathOperator{\secant}{sec}}
81     \CustomizeMathJax{\DeclareMathOperator{\cotangent}{cot}}
82     \CustomizeMathJax{\DeclareMathOperator{\arcsine}{arcsin}}
83     \CustomizeMathJax{\DeclareMathOperator{\arccosine}{arccos}}
84     \CustomizeMathJax{\DeclareMathOperator{\arctangent}{arctan}}
85     \CustomizeMathJax{\DeclareMathOperator{\hypsine}{sinh}}
86     \CustomizeMathJax{\DeclareMathOperator{\hypcosine}{cosh}}
87     \CustomizeMathJax{\DeclareMathOperator{\hyptangent}{tanh}}
88     \CustomizeMathJax{\DeclareMathOperator{\hypcotangent}{coth}}
89     \CustomizeMathJax{\DeclareMathOperator{\exponential}{exp}}
90     \CustomizeMathJax{\DeclareMathOperator{\logarithm}{log}}
91     \CustomizeMathJax{\DeclareMathOperator{\naturallogarithm}{ln}}
92     \CustomizeMathJax{\DeclareMathOperator{\determinant}{det}}
93     \CustomizeMathJax{\DeclareMathOperator{\Probability}{Pr}}
94     \CustomizeMathJax{\newcommand{\sin}[1][{}]{\mathrm{sin}#1}}
95     \CustomizeMathJax{\newcommand{\sinh}[1][{}]{\mathrm{sinh}#1}}
96     \CustomizeMathJax{\newcommand{\arcsin}[1][{}]{\mathrm{arcsin}#1}}
97     \CustomizeMathJax{\newcommand{\asin}[1][{}]{\mathrm{asin}#1}}
98     \CustomizeMathJax{\newcommand{\cos}[1][{}]{\mathrm{cos}#1}}
99     \CustomizeMathJax{\newcommand{\cosh}[1][{}]{\mathrm{cosh}#1}}
100    \CustomizeMathJax{\newcommand{\arccos}[1][{}]{\mathrm{arccos}#1}}
101    \CustomizeMathJax{\newcommand{\acos}[1][{}]{\mathrm{acos}#1}}
102    \CustomizeMathJax{\newcommand{\tan}[1][{}]{\mathrm{tan}#1}}
103    \CustomizeMathJax{\newcommand{\tanh}[1][{}]{\mathrm{tanh}#1}}
104    \CustomizeMathJax{\newcommand{\arctan}[1][{}]{\mathrm{arctan}#1}}
105    \CustomizeMathJax{\newcommand{\atan}[1][{}]{\mathrm{atan}#1}}
106    \CustomizeMathJax{\newcommand{\csc}[1][{}]{\mathrm{csc}#1}}
107    \CustomizeMathJax{\newcommand{\csch}[1][{}]{\mathrm{csch}#1}}
108    \CustomizeMathJax{\newcommand{\arccsc}[1][{}]{\mathrm{arccsc}#1}}
109    \CustomizeMathJax{\newcommand{\acsc}[1][{}]{\mathrm{acsc}#1}}
110    \CustomizeMathJax{\newcommand{\sec}[1][{}]{\mathrm{sec}#1}}
111    \CustomizeMathJax{\newcommand{\sech}[1][{}]{\mathrm{sech}#1}}
112    \CustomizeMathJax{\newcommand{\arcsec}[1][{}]{\mathrm{arcsec}#1}}
113    \CustomizeMathJax{\newcommand{\asec}[1][{}]{\mathrm{asec}#1}}
114    \CustomizeMathJax{\newcommand{\cot}[1][{}]{\mathrm{cot}#1}}
115    \CustomizeMathJax{\newcommand{\coth}[1][{}]{\mathrm{coth}#1}}
116    \CustomizeMathJax{\newcommand{\arccot}[1][{}]{\mathrm{arccot}#1}}
117    \CustomizeMathJax{\newcommand{\acot}[1][{}]{\mathrm{acot}#1}}
118 \else
119     \CustomizeMathJax{\DeclareMathOperator{\arccsc}{arccsc}}
120     \CustomizeMathJax{\DeclareMathOperator{\arcsec}{arcsec}}
```

```
121 \CustomizeMathJax{\DeclareMathOperator{\arccot}{arccot}}
122 \CustomizeMathJax{\DeclareMathOperator{\asin}{asin}}
123 \CustomizeMathJax{\DeclareMathOperator{\acos}{acos}}
124 \CustomizeMathJax{\DeclareMathOperator{\atan}{atan}}
125 \CustomizeMathJax{\DeclareMathOperator{\acsc}{acsc}}
126 \CustomizeMathJax{\DeclareMathOperator{\asec}{asec}}
127 \CustomizeMathJax{\DeclareMathOperator{\acot}{acot}}
128 \CustomizeMathJax{\DeclareMathOperator{\csch}{csch}}
129 \CustomizeMathJax{\DeclareMathOperator{\sech}{sech}}
130 \CustomizeMathJax{\newcommand{\tr}{\text{trace}}}
131 \CustomizeMathJax{\newcommand{\Tr}{\text{Trace}}}
132 \CustomizeMathJax{\newcommand{\Res}{\text{Residue}}}
133 \fi
134
135 \CustomizeMathJax{\DeclareMathOperator{\trace}{tr}}
136 \CustomizeMathJax{\let\tr\text{trace}}
137 \CustomizeMathJax{\DeclareMathOperator{\Trace}{Tr}}
138 \CustomizeMathJax{\let\Tr\text{Trace}}
139 \CustomizeMathJax{\DeclareMathOperator{\rank}{rank}}
140 \CustomizeMathJax{\DeclareMathOperator{\erf}{erf}}
141 \CustomizeMathJax{\DeclareMathOperator{\Residue}{Res}}
142 \CustomizeMathJax{\newcommand{\principalvalue}{\mathcal{P}}}
143 \CustomizeMathJax{\let\pv\principalvalue}
144 \CustomizeMathJax{\newcommand{\PV}{\text{P.V.}}}
145 \CustomizeMathJax{\newcommand{\real}{\mathcal{R}}}
146 \CustomizeMathJax{\newcommand{\imaginary}{\mathcal{I}}}
147
148 % must be brace arguments
149 \CustomizeMathJax{\newcommand{\Re}[1]{\text{Re}\left[1\right]}}
150 \CustomizeMathJax{\newcommand{\Im}[1]{\text{Im}\left[1\right]}}
151
152 \CustomizeMathJax{\newcommand{\qqtext}[1]{\quad\text{#1}\quad}}
153 \CustomizeMathJax{\let\qq\qqtext}
154 \CustomizeMathJax{\newcommand{\qqcomma}{\text{,}\quad}}
155 \CustomizeMathJax{\let\qc\qqcomma}
156 \CustomizeMathJax{\newcommand{\qcc}{\quad\text{c.c.}\quad}}
157 \CustomizeMathJax{\let\qcc}
158 \CustomizeMathJax{\newcommand{\qif}{\quad\text{if}\quad}}
159 \CustomizeMathJax{\newcommand{\qthen}{\quad\text{then}\quad}}
160 \CustomizeMathJax{\newcommand{\qelse}{\quad\text{else}\quad}}
161 \CustomizeMathJax{\newcommand{\qotherwise}{\quad\text{otherwise}\quad}}
162 \CustomizeMathJax{\newcommand{\qunless}{\quad\text{unless}\quad}}
163 \CustomizeMathJax{\newcommand{\qgiven}{\quad\text{given}\quad}}
164 \CustomizeMathJax{\newcommand{\qusing}{\quad\text{using}\quad}}
165 \CustomizeMathJax{\newcommand{\qassume}{\quad\text{assume}\quad}}
166 \CustomizeMathJax{\newcommand{\qsince}{\quad\text{since}\quad}}
167 \CustomizeMathJax{\newcommand{\qlet}{\quad\text{let}\quad}}
168 \CustomizeMathJax{\newcommand{\qfor}{\quad\text{for}\quad}}
169 \CustomizeMathJax{\newcommand{\qall}{\quad\text{all}\quad}}
170 \CustomizeMathJax{\newcommand{\qeven}{\quad\text{even}\quad}}
171 \CustomizeMathJax{\newcommand{\qodd}{\quad\text{odd}\quad}}
172 \CustomizeMathJax{\newcommand{\qinteger}{\quad\text{integer}\quad}}
173 \CustomizeMathJax{\newcommand{\qand}{\quad\text{and}\quad}}
174 \CustomizeMathJax{\newcommand{\qor}{\quad\text{or}\quad}}
175 \CustomizeMathJax{\newcommand{\qas}{\quad\text{as}\quad}}
```

```
176 \CustomizeMathJax{\newcommand{\qin}{\quad\text{in}\quad}}
177
178 \CustomizeMathJax{\newcommand{\differential}[1][]{\text{d}^{#1}}}
179 \CustomizeMathJax{\let\dd\differential}
180
181 \CustomizeMathJax{\newcommand{\derivative}[3][]{%
182     \frac{\text{d}^{#1}\#2}{\text{d}^{#1}\#3}%
183 }}
184 \CustomizeMathJax{\let\dv\derivative}
185
186 \CustomizeMathJax{\newcommand{\partialderivative}[3][]{%
187     \frac{\partial^{#1}\#2}{\partial^{#1}\#3}%
188 }}
189 \CustomizeMathJax{\let\pderivative\partialderivative}
190 \CustomizeMathJax{\let\pdv\partialderivative}
191
192 \CustomizeMathJax{\newcommand{\variation}{\delta}}
193 \CustomizeMathJax{\let\var\variation}
194
195 % Must provide two mandatory args.
196 % For the example in the manual with (E-TS), enclose the parens in braces
197 \CustomizeMathJax{\newcommand{\functionalderivative}[3][]{%
198     \frac{\delta^{#1}\#2}{\delta^{#3}\#1}%
199 }}
200 \CustomizeMathJax{\let\fdv\functionalderivative}
201
202
203 % use \braket to contract
204 \CustomizeMathJax{\newcommand{\bra}[1]{\langle #1\rvert}}
205 \CustomizeMathJax{\newcommand{\ket}[1]{\lvert #1\rangle}}
206
207 % must have two args
208 \CustomizeMathJax{\newcommand{\innerproduct}[2]{%
209     \left\langle #1\middle\lvert #2\right\rangle%
210 }}
211 \CustomizeMathJax{\let\braket\innerproduct}
212 \CustomizeMathJax{\let\ip\innerproduct}
213
214 % must have two args
215 \CustomizeMathJax{\newcommand{\outerproduct}[2]{%
216     \left\lvert #1\middle\rangle\!\middle\langle #2\right\rvert\!%
217 }}
218 \CustomizeMathJax{\let\dyad\outerproduct}
219 \CustomizeMathJax{\let\op\outerproduct}
220
221 % must have two args, unlike the MathJax version
222 \CustomizeMathJax{\newcommand{\expectationvalue}[2]{%
223     \left\langle #2\middle\lvert #1\middle\lvert #2\right\rangle%
224 }}
225 \CustomizeMathJax{\let\expval\expectationvalue}
226 \CustomizeMathJax{\let\ev\expectationvalue}
227
228 \CustomizeMathJax{\newcommand{\matrixelement}[3]{%
229     \left\langle #1\middle\lvert #2\middle\lvert #3\right\rangle%
230 }}
```

```

231 \CustomizeMathJax{\let\m{matrixelement}}
232
233 \CustomizeMathJax{\newcommand{\matrixquantity}[1]{\begin{matrix}#1\end{matrix}}}
234 \CustomizeMathJax{\let\mqty\matrixquantity}
235 \CustomizeMathJax{\newcommand{\pmqty}[1]{\begin{pmatrix}#1\end{pmatrix}}}
236 \CustomizeMathJax{\newcommand{\Pmqty}[1]{%
237     \left\langle\!\!\left.\begin{matrix}#1\end{matrix}\right\!\!\right\rangle\!\!\right.%
238 }%
239 \CustomizeMathJax{\newcommand{\bmqty}[1]{\begin{bmatrix}#1\end{bmatrix}}}
240 \CustomizeMathJax{\newcommand{\vmqty}[1]{\begin{vmatrix}#1\end{vmatrix}}}
241
242 \CustomizeMathJax{\newcommand{\smallmatrixquantity}[1]{%
243     \begin{smallmatrix}#1\end{smallmatrix}}%
244 }%
245 \CustomizeMathJax{\let\smqty\smallmatrixquantity}
246 \CustomizeMathJax{\newcommand{\spmqty}[1]{%
247     \left\langle\!\!\left.\begin{smallmatrix}#1\end{smallmatrix}\right\!\!\right\rangle\!\!\right.%
248 }%
249 \CustomizeMathJax{\newcommand{\sPmqty}[1]{%
250     \left\langle\!\!\left.\begin{smallmatrix}#1\end{smallmatrix}\right\!\!\right\rangle\!\!\right.%
251 }%
252 \CustomizeMathJax{\newcommand{\sbmqty}[1]{%
253     \left\langle\!\!\left.\begin{smallmatrix}#1\end{smallmatrix}\right\!\!\right\rangle\!\!\right.%
254 }%
255 \CustomizeMathJax{\newcommand{\svmqty}[1]{%
256     \left\langle\!\!\left.\begin{smallmatrix}#1\end{smallmatrix}\right\!\!\right\rangle\!\!\right.%
257 }%
258
259 \CustomizeMathJax{\let\matrixdeterminant\vmqty}
260 \CustomizeMathJax{\let\mdet\vmqty}
261 \CustomizeMathJax{\let\smdet\svmqty}
262
263 \CustomizeMathJax{\newcommand{\identitymatrix}[1]{(\text{imat}\{#1\})}}
264 \CustomizeMathJax{\let\imat\identitymatrix}
265
266 \CustomizeMathJax{\newcommand{\xmatrix}[3]{(\text{xmat}\{\}\{#2\}\{#3\})}}
267 \CustomizeMathJax{\let\xmat\xmatrix}
268
269 \CustomizeMathJax{\newcommand{\zeromatrix}[2]{(\text{zmat}\{#1\}\{#2\})}}
270 \CustomizeMathJax{\let\zmat\zeromatrix}
271
272 \CustomizeMathJax{\newcommand{\paulimatrix}[1]{(\text{pmat}\{#1\})}}
273 \CustomizeMathJax{\let\pmat\paulimatrix}
274
275 \CustomizeMathJax{\newcommand{\diagonalmatrix}[2][]{%
276     \left(\text{dmat}\right)}%
277 }%
278 \CustomizeMathJax{\let\dmatrix\diagonalmatrix}
279
280 \CustomizeMathJax{\newcommand{\antidiagonalmatrix}[2][]{%
281     \left(\text{admat}\right)}%
282 }%
283 \CustomizeMathJax{\let\admat\antidiagonalmatrix}
284 \end{warpMathJax}

```

File 323 **l warp-physunits.sty**

§ 423 Package **physunits**

(Emulates or patches code by BRIAN W. MULLIGAN.)

Pkg physunits **physunits** is supported as-is for SVG math, and is emulated for MATHJAX.

for HTML output:

```
1 \LWR@ProvidesPackagePass{physunits}[2020/03/26]

2 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{physunits}
4
5 \CustomizeMathJax{\newcommand{\micro}{\mu}}
6 \CustomizeMathJax{\newcommand{\V}{[1][ ]{\\", \mathrm{#1V}}}}
7 \CustomizeMathJax{\newcommand{\Volt}{[1][ ]{\\", \mathrm{#1V}}}}
8 \CustomizeMathJax{\newcommand{\Coulomb}{[1][ ]{\\", \mathrm{#1C}}}}
9 \CustomizeMathJax{\newcommand{\esu}{\\", \mathrm{esu}}}
10 \CustomizeMathJax{\newcommand{\Ohm}{[1][ ]{\\", \mathrm{#1\Omega}}}}
11 \CustomizeMathJax{\newcommand{\Amp}{[1][ ]{\\", \mathrm{#1A}}}}
12 \CustomizeMathJax{\newcommand{\Farad}{[1][ ]{\\", \mathrm{#1F}}}}
13 \CustomizeMathJax{\newcommand{\Tesla}{[1][ ]{\\", \mathrm{#1T}}}}
14 \CustomizeMathJax{\newcommand{\Gauss}{[1][ ]{\\", \mathrm{#1G}}}}
15 \CustomizeMathJax{\newcommand{\Henry}{[1][ ]{\\", \mathrm{#1H}}}}
16 \CustomizeMathJax{\newcommand{\eV}{[1][ ]{\\", \mathrm{#1eV}}}}
17 \CustomizeMathJax{\newcommand{\keV}{\\", \mathrm{keV}}}
18 \CustomizeMathJax{\newcommand{\MeV}{\\", \mathrm{MeV}}}
19 \CustomizeMathJax{\newcommand{\J}{[1][ ]{\\", \mathrm{#1J}}}}
20 \CustomizeMathJax{\newcommand{\Joule}{[1][ ]{\\", \mathrm{#1J}}}}
21 \CustomizeMathJax{\newcommand{\erg}{\\", \mathrm{erg}}}
22 \CustomizeMathJax{\newcommand{\kcal}{\\", \mathrm{kcal}}}
23 \CustomizeMathJax{\newcommand{\Cal}{\\", \mathrm{Cal}}}
24 \CustomizeMathJax{\newcommand{\calorie}{[1][ ]{\\", \mathrm{#1cal}}}}
25 \CustomizeMathJax{\newcommand{\BTU}{\\", \mathrm{BTU}}}
26 \CustomizeMathJax{\newcommand{\tnt}{\\", \mathrm{ton\, of\, TNT}}}
27 \CustomizeMathJax{\newcommand{\Watt}{[1][ ]{\\", \mathrm{#1W}}}}
28 \CustomizeMathJax{\newcommand{\hpi}{\\", \mathrm{hp(I)}}}
29 \CustomizeMathJax{\newcommand{\hpm}{\\", \mathrm{hp(M)}}}
30 \CustomizeMathJax{\newcommand{\hp}{\\", \mathrm{hp}}}
31 \CustomizeMathJax{\newcommand{\meter}{[1][ ]{\\", \mathrm{#1m}}}}
32 \CustomizeMathJax{\newcommand{\m}{[1][ ]{\\", \mathrm{#1m}}}}
33 \CustomizeMathJax{\newcommand{\km}{\\", \mathrm{km}}}
34 \CustomizeMathJax{\newcommand{\au}{\\", \mathrm{au}}}
35 \CustomizeMathJax{\newcommand{\pc}{[1][ ]{\\", \mathrm{#1pc}}}}
36 \CustomizeMathJax{\newcommand{\ly}{[1][ ]{\\", \mathrm{#1ly}}}}
37 \CustomizeMathJax{\newcommand{\cm}{\\", \mathrm{cm}}}
38 \CustomizeMathJax{\newcommand{\nm}{\\", \mathrm{nm}}}
39 \CustomizeMathJax{\newcommand{\ft}{\\", \mathrm{ft}}}
40 \CustomizeMathJax{\newcommand{\inch}{\\", \mathrm{in}}}
41 \CustomizeMathJax{\newcommand{\mi}{\\", \mathrm{mi}}}
42 \CustomizeMathJax{\newcommand{\s}{[1][ ]{\\", \mathrm{#1s}}}}
```

```

43 \CustomizeMathJax{\newcommand{\Sec}[1][ ]{\\", \mathrm{#1s}}}
44 \CustomizeMathJax{\newcommand{\Min}{\\", \mathrm{min}}}
45 \CustomizeMathJax{\newcommand{\h}{\\", \mathrm{h}}}
46 \CustomizeMathJax{\newcommand{\y}[1][ ]{\\", \mathrm{#1y}}}
47 \CustomizeMathJax{\newcommand{\Day}{\\", \mathrm{d}}}
48
49 \CustomizeMathJax{\newcommand{\gm}[1][ ]{\\", \mathrm{#1g}}}
50 \CustomizeMathJax{\newcommand{\kg}{\\", \mathrm{kg}}}
51 \CustomizeMathJax{\newcommand{\lb}{\\", \mathrm{lb}}}
52 \CustomizeMathJax{\newcommand{\amu}{\\", \mathrm{amu}}}
53 \CustomizeMathJax{\newcommand{\N}[1][ ]{\\", \mathrm{#1N}}}
54 \CustomizeMathJax{\newcommand{\Newton}[1][ ]{\\", \mathrm{#1N}}}
55 \CustomizeMathJax{\newcommand{\dyne}[1][ ]{\\", \mathrm{#1dyn}}}
56 \CustomizeMathJax{\newcommand{\lbf}{\\", \mathrm{lbf}}}
57 \CustomizeMathJax{\newcommand{\kmps}{\\", \mathrm{km}\\", \mathrm{s}^{-1}}}
58 \CustomizeMathJax{\newcommand{\kmph}{\\", \mathrm{km}\\", \mathrm{h}^{-1}}}
59 \CustomizeMathJax{\newcommand{\mps}{\\", \mathrm{#1m}\\", \mathrm{s}^{-1}}}
60 \CustomizeMathJax{\newcommand{\miph}{\\", \mathrm{mi}\\", \mathrm{h}^{-1}}}
61 \CustomizeMathJax{\newcommand{\kts}{\\", \mathrm{kts}}}
62
63 \CustomizeMathJax{\newcommand{\mpss}{\\", \mathrm{#1m}\\", \mathrm{s}^{-2}}}
64 \CustomizeMathJax{\newcommand{\gacc}{\\", \mathrm{g}}}
65 \CustomizeMathJax{\newcommand{\ftpss}{\\", \mathrm{ft}\\", \mathrm{s}^{-2}}}
66 \CustomizeMathJax{\newcommand{\K}[1][ ]{\\", \mathrm{#1K}}}
67 \CustomizeMathJax{\newcommand{\Kelvin}[1][ ]{\\", \mathrm{#1K}}}
68 \CustomizeMathJax{\newcommand{\Celcius}{\\", \circ \mathrm{C}}}
69 \CustomizeMathJax{\newcommand{\Rankine}{\\", \circ \mathrm{R}}}
70 \CustomizeMathJax{\newcommand{\Fahrenheit}{\\", \circ \mathrm{F}}}
71
72 \CustomizeMathJax{\newcommand{\rpm}{\\", \mathrm{rev}\\", \mathrm{Min}^{-1}}}
73
74 \CustomizeMathJax{\newcommand{\Hz}[1][ ]{\\", \mathrm{#1Hz}}}
75 \CustomizeMathJax{\newcommand{\barP}[1][ ]{\\", \mathrm{#1bar}}}
76 \CustomizeMathJax{\newcommand{\atm}{\\", \mathrm{atm}}}
77 \CustomizeMathJax{\newcommand{\Pa}[1][ ]{\\", \mathrm{#1Pa}}}
78 \CustomizeMathJax{\newcommand{\mmHg}{\\", \mathrm{mmHg}}}
79 \CustomizeMathJax{\newcommand{\inHg}{\\", \mathrm{inHg}}}
80 \CustomizeMathJax{\newcommand{\lbsi}{\\", \mathrm{psi}}}
81 \CustomizeMathJax{\newcommand{\lbsf}{\\", \mathrm{psf}}}
82 \CustomizeMathJax{\newcommand{\Ba}[1][ ]{\\", \mathrm{#1Ba}}}
83 \CustomizeMathJax{\newcommand{\Torr}{\\", \mathrm{#1Torr}}}
84 \CustomizeMathJax{\newcommand{\mol}{\\", \mathrm{mol}}}
85 \end{warpMathJax}

```

File 324 **lwarf-pifont.sty**

§ 424 Package **pifont**

(Emulates or patches code by WALTER SCHMIDT.)

Pkg pifont pifont is patched for use by lwarf.

Hashed inline images are used, as there may not be Unicode support for all icons.

for HTML output:

```

1 \LWR@ProvidesPackagePass{pifont}[2005/04/12]

2 \renewcommand{\Pisymbol}[2]{%
3   \begin{lateximage}*[Pisymbol][pisymbol#1#2]%
4   {\Pifont[#1]\char#2}%
5   \end{lateximage}%
6 }
7
8 \newcommand{\LWR@HTML@Pifill}[2]{%
9   \Pisymbol[#1]{#2} \Pisymbol[#1]{#2} \Pisymbol[#1]{#2}%
10 }%
11 \LWR@formatted{Pifill}%
12
13 \newcommand{\LWR@HTML@Piline}[2]{%
14   \par\noindent\hspace*{0.5in}%
15   \Pifill[#1]{#2} \Pifill[#1]{#2} \Pifill[#1]{#2}%
16 }%
17 \LWR@formatted{Piline}

```

File 325 l warp-placeins.sty

§ 425 Package **placeins**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg placeins placeins is ignored.

Discard all options for l warp-placeins:

for HTML output:

```

1 \LWR@ProvidesPackageDrop{placeins}[2005/04/18]

2 \newcommand*{\FloatBarrier}{}%

```

File 326 l warp-plarydshln.sty

§ 426 Package **plarydshln**

Pkg plarydshln plarydshln is emulated by l warp-arydshln.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{plarydshln}[2018/10/20]

2 \LWR@origRequirePackage{l warp-arydshln}

```

File 327 l warp-plex.sty

§ 427 Package **plex**

Pkg plex plex is preloaded by jarticle and related classes.

```

for HTML output: 1 \LWR@loadbefore{plexit}
2
3 \LWR@ProvidesPackagePass{plexit}[2017/07/21]

4 \let\state\relax
5
6 \DeclareExpandableDocumentCommand{\rensucci}{s o m}{#3}
7
8 % \layoutfloat(width,height)[pos]#4
9 \DeclareDocumentCommand{\layoutfloat}{d() o m}{}
10
11 % \DeclareLayoutCaption{type} <dir>(width)[pos1pos2]
12 \DeclareDocumentCommand{\DeclareLayoutCaption}{m d> d() o}{}
13
14 \LetLtxMacro\pcaption\caption
15
16 % \layoutcaption<dir>(width)[pos]
17 \DeclareDocumentCommand{\layoutcaption}{d> d() o}{}
18
19 \let\captiondir\relax

```

Add the optional <t/y> direction:

```

20 \RenewDocumentEnvironment{\LWR@HTML@minipage}{d> 0{t} 0{} 0{t} m}
21   {\LWR@HTML@sub@minipage[#2]{#3}{#4}{#5}}
22   {\endLWR@HTML@sub@minipage}
23
24 \RenewDocumentCommand{\LWR@HTML@parbox}{d> 0{t} 0{} 0{t} m +m}
25 {
26 \LWR@traceinfo{parbox of width #4}%
27 \begin{minipage}[#2][#3][#4]{#5}%
28 #6
29 \end{minipage}%
30 }
31
32 % \pbox <t/y> [width] [l/r] {contents}
33 \RenewDocumentCommand{\pbox}{d> 0{0pt} 0{c} m}{%
34 \global\booltrue{\LWR@minipagefullwidth}%
35 \parbox[#2]{#4}%
36 }

```

picture, as modified by `pxext`, is encapsulated by the `lwarp` core.

File 328 `lwarp-plexarydshln.sty`

§ 428 Package `plexarydshln`

`Pkg plexarydshln` `plexarydshln` is emulated by `lwarp-arydshln`.

```

for HTML output: 1 \LWR@ProvidesPackageDrop{plexarydshln}[2018/10/20]

2 \LWR@origRequirePackage{lwarp-arydshln}

```

File 329 **l warp-plextcolortbl.sty**

§ 429 Package **plextcolortbl**

Pkg pletecolortbl pletecolortbl is emulated by l warp-colortbl.

for HTML output: 1 \LWR@ProvidesPackageDrop{plextcolortbl}[2018/09/19]
2 \LWR@origRequirePackage{l warp-colortbl}

File 330 **l warp-prelim2e.sty**

§ 430 Package **prelim2e**

(Emulates or patches code by MARTIN SCHRÖDER.)

Pkg prelim2e prelim2e is ignored.
Discard all options for l warp-prelim2e:

1 \LWR@ProvidesPackageDrop{prelim2e}[2009/05/29]
2 \newcommand{\PrelimText}{}
3 \newcommand{\PrelimTextStyle}{}
4 \newcommand{\PrelimWords}{}

File 331 **l warp-prettyref.sty**

§ 431 Package **prettyref**

(Emulates or patches code by KEVIN S. RULAND.)

Pkg prettyref prettyref is patched for use by l warp.
for HTML output: 1 \LWR@ProvidesPackagePass{prettyref}[1998/07/09]
2 \newreformat{fig}{Figure \ref{#1}}
3 \newreformat{tab}{Table \ref{#1}}

File 332 **l warp-preview.sty**

§ 432 Package **preview**

Pkg preview preview is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{preview}[2017/04/24]

```

2 \newenvironment{preview}{}{}
3 \newenvironment{nopreview}{}{}
4 \NewDocumentCommand{\PreviewMacro}{s o o +m}(){}
5 \NewDocumentCommand{\PreviewEnvironment}{s o o +m}){}
6 \newcommand{\PreviewSnarfEnvironment}[2][]{}
7 \NewDocumentCommand{\PreviewOpen}{s o}){}
8 \NewDocumentCommand{\PreviewClose}{s o}){}
9 \let\ifPreview\iffalse% \fi for syntax highlighting

```

File 333 l warp-psfrag.sty

§ 433 Package **psfrag**

(Emulates or patches code by MICHAEL C. GRANT, DAVID CARLISLE.)

Pkg psfrag psfrag is patched for use by l warp.

⚠ **use psfrags** The psfrags environment is modified to use lateximage to encapsulate the image. Always use a psfrags environment to contain any local \psfrag macros and the associated \includegraphics or \epsfig calls. Outside of a psfrags environment, psfrags adjustments will not be seen by l warp.

⚠ Tip: Use a mono-spaced font for the tags in the EPS file.

for HTML output: 1 \LWR@ProvidesPackagePass{psfrag}[1998/04/11]

A lateximage captures the modified image from the document.

```

2 \BeforeBeginEnvironment{psfrags}{%
3   \begin{lateximage}[-psfrags-\~\PackageDiagramAltText]%
4 }
5
6 \AfterEndEnvironment{psfrags}{\end{lateximage}}

```

File 334 l warp-psfragx.sty

§ 434 Package **psfragx**

(Emulates or patches code by PASCAL KOCKAERT.)

Pkg psfragx psfragx is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{psfragx}[2012/05/02]

A lateximage captures the modified image from the document.

```

2 \def\pfx@includegraphicx#1#2{%

```

```

3   \begin{ lateximage } [ -psfragx {~\PackageDiagramAltText} ]
4   \mbox { \pfx @overpix {#1}{#2} \endpfx @overpix }
5   \end{ lateximage }
6 }
7
8 \def \@@overpix [ #1 ] <#2> [ #3 ] #4 {%
9   \begin{ lateximage } [ -psfragx {~\PackageDiagramAltText} ]
10  \pfx @overpix {#1}, ovpgd = {#2}, ovpgd = {#3} } {#4} %
11 }
12
13 \def \endoverpix {%
14   \endpfx @overpix %
15   \end{ lateximage }
16 }
```

File 335 **l warp-pst-eps.sty**

§ 435 Package **pst-eps**

(Emulates or patches code by HERBERT VOSS.)

Pkg pst-eps **pst-eps** is patched for use by **l warp**.

for HTML output:

```

1 \LWR@ProvidesPackagePass{pst-eps}[2005/05/20]

2 \renewenvironment{TeXtoEPS}{}{}
3 \renewcommand{\PSTtoEPS}[3][]{}
```

File 336 **l warp-pstool.sty**

§ 436 Package **pstool**

(Emulates or patches code by ZEBB PRIME, WILL ROBERTSON.)

Pkg pstool **pstool** is patched for use by **l warp**.

\graphicspath is ignored, and the file directory must be stated.

⚠ **path and filename** The filename must not have a file extension.

Use

Enter ⇒ **l warpmk html**

followed by

Enter ⇒ **l warpmk limages**

.

for HTML output:

```

1 \LWR@ProvidesPackagePass{pstool}[2018/01/20]
```

Each image is placed inside a `\begin{ lateximage }` to capture the results of `psfrag`.

```

2 \renewcommand{\pstool@alwaysprocess}[3][]{%
3   \begin{ lateximage }[-pstool-\~\PackageDiagramAltText]{%
4     \includegraphics{#2.pdf}%
5   \end{ lateximage }%
6 }
7 \LetLtxMacro{\pstool@neverprocess}{\pstool@alwaysprocess}
8 \LetLtxMacro{\pstool@maybeprocess}{\pstool@alwaysprocess}
9
10 \renewcommand{\pstool@@psfragfig}[4]{%
11   \begin{ lateximage }[-pstool-\~\PackageDiagramAltText]{%
12     \includegraphics{#2.pdf}%
13   \end{ lateximage }%
14 }

```

File 337 **l warp-pstricks.sty**

§ 437 Package **pstricks**

(Emulates or patches code by TIMOTHY VAN ZANDT.)

Pkg `pstricks` `pstricks` is patched for use by `l warp`.

⚠ `use pspicture` All `pstricks` content should be contained inside a `pspicture` environment.

for HTML output:

```

1 \LWR@ProvidesPackagePass{pstricks}[2018/01/06]

2 \BeforeBeginEnvironment{pspicture}{%
3   \begin{ lateximage }[pspicture]{%
4   }%
5 \AfterEndEnvironment{pspicture}{\end{ lateximage }}%

```

File 338 **l warp-pxatbegshi.sty**

§ 438 Package **pxatbegshi**

Pkg `pxatbegshi` `pxatbegshi` is ignored.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{pxatbegshi}[2017/11/04]

2 \LWR@origRequirePackage{l warp-atbegshi}

```

File 339 **l warp-pxeveryshi.sty**

§ 439 Package **pxeveryshi**

Pkg `pxeveryshi` `pxeveryshi` is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pxeveryshi}[2012/05/19]
2 \LWR@origRequirePackage{l warp-everyshi}

File 340 **l warp-pxftnright.sty**

§ 440 Package **pxftnright**

Pkg pxftnright pxftnright is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pxftnright}[2017/02/28]
2 \LWR@origRequirePackage{l warp-ftnright}

File 341 **l warp-pxjahyper.sty**

§ 441 Package **pxjahyper**

Pkg pxjahyper pxjahyper is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pxjahyper}[2018/07/15]

File 342 **l warp-quotchap.sty**

§ 442 Package **quotchap**

(Emulates or patches code by KARSTEN TINNEFELD, JAN KLEVER.)

Pkg quotchap quotchap is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{quotchap}[2019/07/09]
2 \newcommand{\@quotchap}{}
3 \newlength{\LWR@quotchapwidth}
4
5 \let\@printcites\relax
6
7 \newcommand*{\@iprintcites}{%

Place the quotes inside a <div> of class quotchap, of the maximum selected width:

8 \begin{BlockClass}[max-width: \LWR@printlength{\LWR@quotchapwidth}]{quotchap}
9 %\begin{minipage}{\LWR@quotchapwidth}
10 \@quotchap
11 %\end{minipage}
12 \end{BlockClass}

Deactivate the quote printing:

```
13 \global\let\@printcites\relax
14 }
15
16 \NewEnviron{savequote}[1][\linewidth]{%
```

Remember the width, adjusted for HTML, and make the length assignment global, per:
<https://tex.stackexchange.com/questions/300823/why-is-setlength-ineffective-inside-a-tabular-environment>

```
17 \setlength{\LWR@quotchapwidth}{#1*2}%
18 \global\LWR@quotchapwidth=\LWR@quotchapwidth%
```

Remember the body, and activate the quote printing:

```
19 \global\let\@quotchap BODY
20 \global\let\@printcites\@iprintcites%
21 }
```

The quotation author is placed inside a <div> of class qauthor:

```
22 \newcommand{\qauthor}[1]{%
23   \LWR@stoppars%
24   \begin{BlockClass}{qauthor}%
25   {#1}%
26   \end{BlockClass}%
27   \LWR@startpars%
28 }
```

Fonts are ignored. Use css.

```
29 \newcommand{\qsetcnfont}[1]{}
30 \providecommand*\quotefont{}%
31 \providecommand*\qauthorfont{}
```

File 343 lwarf-quoting.sty

§ 443 Package **quoting**

(Emulates or patches code by THOMAS TITZ.)

Pkg quoting **quoting** is patched for use by lwarf.

for HTML output: 1 \LWR@ProvidesPackagePass{quoting}[2014/01/28]

```
2 \xpatchcmd{\quoting}{\quo@begintext}
3   {\begin{LWR@blocktextcurrentfont}\quo@begintext}
4   {}
5   {\LWR@patcherror{quoting}{quoting}}
6
```

```
7 \xpatchcmd{\endquoting}{\quo@endtext}
8   {\quo@endtext\end{LWR@blocktextcurrentfont}\LWR@stoppars}
9   {}
10  {\LWR@patcherror{imakeidx}{endquoting}}
```

File 344 **l warp-ragged2e.sty**

§ 444 Package **ragged2e**

(Emulates or patches code by MARTIN SCHRÖDER.)

Pkg **ragged2e** **ragged2e** is emulated.

Discard all options for **l warp-ragged2e**:

for HTML output: 1 \LWR@ProvidesPackageDrop{ragged2e}[2009/05/21]

```
2 \LetLtxMacro\Centering\centering
3 \LetLtxMacro\RaggedLeft\raggedleft
4 \LetLtxMacro\RaggedRight\raggedright
5 \newcommand*\{justifyin}{}
6 \newlength{\CenteringLeftskip}
7 \newlength{\RaggedLeftLeftskip}
8 \newlength{\RaggedRightLeftskip}
9 \newlength{\CenteringRightskip}
10 \newlength{\RaggedLeftRightskip}
11 \newlength{\RaggedRightRightskip}
12 \newlength{\CenteringParfillskip}
13 \newlength{\RaggedLeftParfillskip}
14 \newlength{\RaggedRightParfillskip}
15 \newlength{\JustifyingParfillskip}
16 \newlength{\CenteringParindent}
17 \newlength{\RaggedLeftParindent}
18 \newlength{\RaggedRightParindent}
19 \newlength{\JustifyingParindent}
20 \newenvironment*{Center}{\center}{\endcenter}
21 \newenvironment*{FlushLeft}{\flushleft}{\endflushleft}
22 \newenvironment*{FlushRight}{\flushright}{\endflushright}
23 \newenvironment*{justify}{\justify}{\endjustify}
```

File 345 **l warp-realscripts.sty**

§ 445 Package **realscripts**

(Emulates or patches code by WILL ROBERTSON.)

Pkg **realscripts** **realscripts** is emulated. See **l warp.css** for the of class supsubscript.

for HTML output: 1 \LWR@ProvidesPackageDrop{realscripts}[2016/02/13]

```

2 \let\realsuperscript{textsuperscript}
3 \let\realsubscript{textsubscript}
4
5 \let\fakesuperscript{textsuperscript}
6 \let\fakesubscript{textsubscript}
7
8 \newlength{\subsupersep}
9
10 \newcommand*{\LWR@realscriptsalign}{}
11
12 \newcommand*{\LWR@setrealscriptsalign}[1]{%
13     \renewcommand*{\LWR@realscriptsalign}{}%
14     \ifthenelse{\equal{#1}{c}}{%
15         \renewcommand{\LWR@realscriptsalign}{%
16             \LWR@print@mbox{text-align:center} ; %
17         }%
18     }%
19     \ifthenelse{\equal{#1}{r}}{%
20         \renewcommand{\LWR@realscriptsalign}{%
21             \LWR@print@mbox{text-align:right} ; %
22         }%
23     }%
24 }
25
26 \DeclareDocumentCommand \textsubsuperscript {s O{l} mm} {%
27     \LWR@setrealscriptsalign{#2}%
28     \InlineClass[\LWR@realscriptsalign]{supsubscript}{%
29         \textsuperscript{#4}\textsubscript{#3}%
30     }%
31 }
32
33 \DeclareDocumentCommand \textsupersubscript {s O{l} mm} {%
34     \LWR@setrealscriptsalign{#2}%
35     \InlineClass[\LWR@realscriptsalign]{supsubscript}{%
36         \textsubscript{#4}\textsuperscript{#3}%
37     }%
38 }

```

File 346 **l warp-refcheck.sty**

§ 446 Package **refcheck**

Pkg refcheck refcheck is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{refcheck}[2013/02/14]

```

2 \def\showrefnames{}
3 \def\norefnames{}
4 \def\showcitenames{}
5 \def\nocitenames{}
6 \def\setonmsgs{}
7 \def\setoffmsgs{}

```

```
8 \def\checkunlbld{}  
9 \def\ignoreunlbld{}  
10 \newcommand*\refcheckxrdoc}[2][]{}
```

File 347 l warp-register.sty**§ 447 Package register**

(Emulates or patches code by MATTHEW LOVELL.)

Pkg register register is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{register}[2019/01/01]

```
2 \xpatchcmd{\register}{\centering}{%  
3   {\begin{center}}%  
4   {\begin{ lateximage }[-register-\~\PackageDiagramAltText]\%  
5   }%  
6   {\end{ lateximage }\end{center}\%  
7   \leftskip%  
8   {\begin{ lateximage }[-register-\~\PackageDiagramAltText]\%  
9   }%  
10  {\end{ lateximage }\end{center}\%  
11 \xpatchcmd{\endregister}{\leftskip}{%  
12   {\begin{ center}}%  
13   {\begin{ lateximage }[-register-\~\PackageDiagramAltText]\%  
14   }%  
15   {\end{ lateximage }\end{center}\%  
16   \leftskip%  
17   {\begin{ lateximage }[-register-\~\PackageDiagramAltText]\%  
18   }%  
19  {\end{ lateximage }\end{center}\%  
20 \expandafter\xapptocmd\csname register*\endcsname{  
21   {\begin{ center}}%  
22   {\begin{ lateximage }[-register-\~\PackageDiagramAltText]\%  
23   }%  
24   {\end{ lateximage }\end{center}\%  
25   \leftskip%  
26   {\begin{ lateximage }[-register-\~\PackageDiagramAltText]\%  
27   }%  
28 \expandafter\xpatchcmd\csname endregister*\endcsname{  
29   {\leftskip}}%  
30   {\begin{ center}}%  
31   {\begin{ lateximage }[-register-\~\PackageDiagramAltText]\%  
32   }%  
33   {\end{ lateximage }\end{center}\%  
34   \leftskip%  
35   {\begin{ lateximage }[-register-\~\PackageDiagramAltText]\%  
36   }%  
37 \setlength{\regWidth}{5in}
```

File 348 **l warp-relsize.sty**

§ 448 Package **relsize**

(Emulates or patches code by DONALD ARSENAU, BERNIE COSELL, MATT SWIFT.)

Pkg **relsize** **relsize** is patched for use by **l warp**, and emulated for MATHJAX.

For HTML, only the inline macros are supported: `\textlarger`, `\textsmaller`, and `\textscale`. Each becomes an inline span of a modified font-size.

`\relsize`, `\larger`, `\smaller`, and `\relscale` are ignored.

While creating SVG math for HTML, the original definitions are temporarily restored, and so should work as expected.

 **not small** The HTML browser's setting for minimum font size may limit how small the output will be displayed.

for HTML output:

```
1 \LWR@ProvidesPackagePass{relsize}[2013/03/29]

2 \let\LWR@origrelsize\relsize
3 \LetLtxMacro{\LWR@origlarger}{\larger}
4 \LetLtxMacro{\LWR@origsmaller}{\smaller}
5 \let\LWR@relscale\relscale
6 \LetLtxMacro{\LWR@origtextlarger}{\textlarger}
7 \LetLtxMacro{\LWR@origtextsmaller}{\textsmaller}
8 \let\LWR@textscale\textscale
9
10 \appto{\LWR@restoreorigformatting}{%
11   \let\relsize{\LWR@origrelsize}%
12   \LetLtxMacro{\larger}{\LWR@origlarger}%
13   \LetLtxMacro{\smaller}{\LWR@origsmaller}%
14   \let\relscale{\LWR@relscale}%
15   \LetLtxMacro{\textlarger}{\LWR@origtextlarger}%
16   \LetLtxMacro{\textsmaller}{\LWR@origtextsmaller}%
17   \let{textscale}{\LWR@textscale}%
18 }
19
20 \newcounter{LWR@relsize临时}
21
22 \renewcommand*{\relsize}[1]{}
23 \renewcommand*{\larger}[1][]{}
24 \renewcommand*{\smaller}[1][]{}
25 \renewcommand*{\relscale}[1]{}
26
27 \renewcommand*{\textlarger}[2][1]{%
28   \setcounter{LWR@relsize临时}{100+ (#1*20)}%
29   \InlineClass{font-size:\arabic{LWR@relsize临时}\%}{textlarger}{#2}%
30 }
31
```

```

32 \renewcommand*\textsmaller}[2][1]{%
33 \setcounter{LWR@relsize}{100-(#1*20)}%
34 \InlineClass[font-size:\arabic{LWR@relsize}\%]{textsmaller}{#2}%
35 }
36
37 \renewcommand*\textscale}[2]{%
38 \setcounter{LWR@relsize}{100*\real{#1}}%
39 \InlineClass[font-size:\arabic{LWR@relsize}\%]{textscale}{#2}%
40 }

```

For MATHJAX:

```

41 \begin{warpMathJax}
42 \CustomizeMathJax{\newcommand{\mathlarger}[1]{#1}}
43 \CustomizeMathJax{\newcommand{\mathsmaller}[1]{#1}}
44 \end{warpMathJax}

```

File 349 **lwarf-repeatindex.sty**

§ 449 Package **repeatindex**

Pkg repeatindex repeatindex is emulated for lwarf.

⚠ style file lwarf must be used with a special style file:

```
\usepackage[makeindex,makeindexStyle={lwarf_repeatindex}]{lwarf}
```

where lwarf_repeatindex.ist may be copied from the following modified version of lwarf.ist:

```

preamble
"\begin{theindex}
 \providecommand*\lettergroupDefault[1]{}
 \providecommand*\lettergroup[1]{%
   \par\textbf{\#1}\par
   \nopagebreak
 }
"
headings_flag 1
heading_prefix "
 \lettergroup{
heading_suffix "}"
delim_0 "], \hyperindexref{"
delim_1 ", \hyperindexref{"
delim_2 ", \hyperindexref{"
delim_n "}, \hyperindexref{"
delim_r "} -- \hyperindexref{"
delim_t "}"

item_0 "\n \item ["

```

(The modifications are the `delim_0` and `item_0` entries.)

for HTML output: 1 \LWR@ProvidesPackageDrop{repeatindex}[2001/10/13]

In the `l warp` core, `\LWR@indexitem` is modified to accept the optional `\item` argument.

```
2 \RequirePackage{makeidx}
3 \def\entryprefix{\itshape}
4 \def\entrypostfix{\dots}
```

File 350 **l warp-resizegather.sty**

§ 450 Package **resizegather**

Pkg `resizegather` `resizegather` is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{resizegather}[2016/05/16]

```
2 \newcommand*\resizegathersetup[1]{}

---


```

File 351 **l warp-returntogrid.sty**

§ 451 Package **returntogrid**

Pkg `returntogrid` `returntogrid` is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{returntogrid}[2018/08/21]

```
2 \NewDocumentCommand\returntogrid{ 0 {} }{}
3 \NewDocumentCommand\returntogridsetup { m } {}
4 \NewDocumentCommand\showdebugpagegrid {} {}

---


```

File 352 **l warp-rmathbr.sty**

§ 452 Package **rmathbr**

(Emulates or patches code by DENIS RYABOV.)

Pkg `rmathbr` `rmathbr` is used as-is for SVG math, and emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{rmathbr}[2016/04/10]

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\def\*\{\~\}}
4 \CustomizeMathJax{\newcommand{\cdott}{\cdot}}
5 \CustomizeMathJax{\newcommand{\nobr}{}}
6 \end{warpMathJax}
```

File 353 **l warp-rmpage.sty**

§ 453 Package **rmpage**

Pkg rmpage rmpage is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{rmpage}[1997/09/29]

File 354 **l warp-romanbar.sty**

§ 454 Package **romanbar**

(Emulates or patches code by H.-MARTIN MÜNCH.)

Pkg romanbar romanbar is patched for use by l warp.

An inline class with an overline and underline is used.

for HTML output: 1 \LWR@ProvidesPackagePass{romanbar}[2012/01/01]

```
2 \DeclareRobustCommand{\Roman@bar}{\% #1 is in Roman, i.e. MMXII  
3 \InlineClass[%  
4   text-decoration: overline underline ;  
5 ]{\romanbar}{#1}%  
6 }
```

File 355 **l warp-romanbarpagenumber.sty**

§ 455 Package **romanbarpagenumber**

Pkg romanbarpagenumber romanbarpagenumber is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{romanbarpagenumber}[2015/02/06]

File 356 **l warp-rotating.sty**

§ 456 Package **rotating**

(Emulates or patches code by ROBIN FAIRBAIRNS, SEBASTIAN RAHTZ, LEONOR BARROCA.)

Pkg rotating rotating is emulated.

All rotations are ignored in HTML output.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{rotating}[2016/08/11]
2 \RequirePackage{graphicx}

3 \LetLtxMacro\sidewaystable\table
4 \let\endsidewaystable\endtable
5
6 \LetLtxMacro\sidewaysfigure\figure
7 \let\endsidewaysfigure\endfigure
8
9 \newenvironment*{sideways}{}{}
10 \newenvironment*{turn}[1]{}{}
11 \newenvironment*{rotate}[1]{}{}
12 \NewDocumentCommand{\turnbox}{m +m}{#2}
13 \let\rotcaption\caption
14 \let\@makerotcaption\@makecaption

```

File 357 **l warp-rotfloat.sty**

§ 457 Package **rotfloat**

(Emulates or patches code by AXEL SOMMERFELDT.)

Pkg **rotfloat** **rotfloat** is emulated.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{rotfloat}[2004/01/04]
2
3 \RequirePackage{float}

```

\newfloat {\langle 1: type \rangle} {\langle 2: placement \rangle} {\langle 3: ext \rangle} [{\langle 4: within \rangle}]

Emulates the \newfloat command from the float package. Sideways floats are \let to the same as regular floats.

“placement” is ignored.

```

4 \RenewDocumentCommand{\newfloat}{m m m o}{%
5 \IfValueTF{#4}{%
6 {%
7 \ DeclareFloatingEnvironment[fileext=#3,within=#4]{#1}%
8 }%
9 {%
10 \ DeclareFloatingEnvironment[fileext=#3]{#1}%
11 }%
12 \csletcs{sideways}{#1}%
13 \csletcs{endsideways}{#1}{end#1}%

```

Remember the float style:

```

14 \csedef{\LWR@floatstyle@#1}{\LWR@floatstyle}%
15 \csedef{\LWR@floatstyle@sideways}{\LWR@floatstyle}%

```

`newfloat` package automatically creates the `\listof` command for new floats, but `float` does not, so remove `\listof` here in case it is manually created later:

```
16 \cslet{listof#1s}\relax%
17 \cslet{listof#1es}\relax%
18 \cslet{listofsideways#1s}\relax%
19 \cslet{listofsideways#1es}\relax%
20 }
```

File 358 **l warp-rviewport.sty**

§ 458 Package **rviewport**

Pkg `rviewport` `rviewport` is honored inside a `lateximage`, and otherwise ignored for `HTML` output.

If `rviewport` is important for an image, enclose the image inside a `lateximage` environment.

for HTML output: 1 \LWR@ProvidesPackagePass{rviewport}[2011/08/27]

```
2 \define@key{igraph}{rviewport}{}{}
```

File 359 **l warp-savetrees.sty**

§ 459 Package **savetrees**

Pkg `savetrees` `savetrees` is ignored.

for HTML output: Discard all options for `l warp-savetrees`:

```
1 \LWR@ProvidesPackageDrop{savetrees}[2016/04/13]
```

File 360 **l warp-scalefnt.sty**

§ 460 Package **scalefnt**

(Emulates or patches code by D. CARLISLE.)

Pkg `scalefnt` `scalefnt` is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{scalefnt}

```
2 \DeclareRobustCommand\scalefont[1]{}{}
```

File 361 l warp-schemata.sty

§ 461 Package **schemata**

(Emulates or patches code by CHARLES P. SCHAUM.)

Pkg **schemata** **schemata** is patched for use by **l warp**.

for HTML output: 1 \LWR@ProvidesPackagePass{schemata}[2016/01/25]

```
2 \LetLtxMacro{\LWR@schemata}{\origschemata}
3 \LetLtxMacro{\LWR@schemata}{\origSchema}
4
5 \renewcommand{\schema}[3][open]{%
6 \begin{ lateximage }
7 \LWR@print@normalsize
8 \LWR@schemata{\origschema[#1]{#2}{#3}}%
9 \end{ lateximage }
10 }
11
12 \renewcommand{\Schema}[5][open]{%
13 \begin{ lateximage }
14 \LWR@print@normalsize
15 \LWR@schemata{\origSchema[#1]{#2}{#3}{#4}{#5}}%
16 \end{ lateximage }
17 }
```

File 362 l warp-scrextend.sty

§ 462 Package **scrextend**

Pkg **scrextend** **scrextend** is emulated.

This package may be loaded standalone, but is also loaded automatically if *koma-script* classes are in use. *\DeclareDocumentCommand* is used to overwrite the *koma-script* definitions.

for HTML output: 1 \LWR@ProvidesPackageDrop{scrextend}[2018/03/30]

```
2 \DeclareDocumentCommand{\setkomafont}{m m}{}
3 \DeclareDocumentCommand{\addkomafont}{m m}{}
4 \DeclareDocumentCommand{\usekomafont}{m}{}
5
6 \DeclareDocumentCommand{\usefontofkomafont}{m}{}
7 \DeclareDocumentCommand{\useencodingofkomafont}{m}{}
8 \DeclareDocumentCommand{\usesizeofkomafont}{m}{}
9 \DeclareDocumentCommand{\usefamilyofkomafont}{m}{}
10 \DeclareDocumentCommand{\useseriesofkomafont}{m}{}
```

```
11 \DeclareDocumentCommand{\useshapeofkomafont}{m}{}
12
13 \AtBeginDocument{
14     \let\LWR@koma@orig@maketitle\maketitle
15     \DeclareDocumentCommand{\maketitle}{o}{\LWR@koma@orig@maketitle}
16 }
17
18 \DeclareDocumentCommand{\extratitle}{m}{}
19 \DeclareDocumentCommand{\titlehead}{m}{}
20 \DeclareDocumentCommand{\subject}{m}{}
21 \DeclareDocumentCommand{\publishers}{m}{\published{#1}}
22 \DeclareDocumentCommand{\uppertitleback}{m}{}
23 \DeclareDocumentCommand{\lowertitleback}{m}{}
24 \DeclareDocumentCommand{\dedication}{m}{}
25
26 \DeclareDocumentCommand{\ifthispageodd}{m m}{#1}
27
28 \DeclareDocumentCommand{\titlepagestyle}{}{}
29
30 \DeclareDocumentCommand{\cleardoublepageusingstyle}{m}{}
31 \DeclareDocumentCommand{\cleardoubleemptypage}{}{}
32 \DeclareDocumentCommand{\cleardoubleplainpage}{}{}
33 \DeclareDocumentCommand{\cleardoublestandardpage}{}{}
34 \DeclareDocumentCommand{\cleardoubleoddpage}{}{}
35 \DeclareDocumentCommand{\cleardoubleoddpageusingstyle}{m}{}
36 \DeclareDocumentCommand{\cleardoubleoddemptypage}{}{}
37 \DeclareDocumentCommand{\cleardoubleoddplainpage}{}{}
38 \DeclareDocumentCommand{\cleardoubleoddstandardpage}{}{}
39 \DeclareDocumentCommand{\cleardoubleevenpage}{}{}
40 \DeclareDocumentCommand{\cleardoubleevenpageusingstyle}{m}{}
41 \DeclareDocumentCommand{\cleardoubleevenemptypage}{}{}
42 \DeclareDocumentCommand{\cleardoubleevenplainpage}{}{}
43 \DeclareDocumentCommand{\cleardoubleevenstandardpage}{}{}
44
45 \DeclareDocumentCommand{\multiplefootnoteseparator}{}{%
46     \begingroup\let\thefootnotemark\multfootsep\@makefnmark\endgroup
47 }
48
49 \DeclareDocumentCommand{\multfootsep}{}{,}
50
51 \DeclareDocumentCommand{\footref}{m}{%
52     \begingroup
53         \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
54     \endgroup
55     \@footnotemark
56 }
57
58 \DeclareDocumentCommand{\deffootnote}{o m m m}{}
59 \DeclareDocumentCommand{\deffootnotemark}{m}{}
60 \DeclareDocumentCommand{\setfootnoterule}{o m}{}
61 \DeclareDocumentCommand{\raggedfootnote}{}{%
62 \DeclareDocumentCommand{\dictum}{o m}{%
63 \begin{LWR@BlockClassWP}{\LWR@print@mbox{text-align:right}}{}{\dictum}%
64     #2
65 }
```

```
65 \IfValueT{#1}{%
66   {%
67     \LWR@stopars%
68     \ifbool{FormatWP}{%
69       {\begin{BlockClass}[\LWR@print@mbox{border-top:} 1px solid gray]{dictumauthor}}%
70       {\begin{BlockClass}{dictumauthor}}%
71       \dictumauthorformat{#1}%
72     \end{BlockClass}%
73   }%
74 \end{LWR@BlockClassWP}%
75 }%
76 %
77 \DeclareDocumentCommand{\dictumwidth}{}
78 \DeclareDocumentCommand{\dictumauthorformat}{m}{(#1)}%
79 \DeclareDocumentCommand{\dictumrule}{}
80 \DeclareDocumentCommand{\raggeddictum}{}
81 \DeclareDocumentCommand{\raggeddictumtext}{}
82 \DeclareDocumentCommand{\raggeddictumauthor}{}
83 %
84 \DeclareDocumentEnvironment{labeling}{o m}%
85 {%
86 \def\sc@septext{#1}%
87 \list{}{%
88 \let\makelabel\labelinglabel%
89 }%
90 {%
91 \endlist
92 }%
93 %
94 \DeclareDocumentCommand{\labelinglabel}{m}{%
95 #1 \qquad \sc@septext%
96 }%
97 %
98 \let\addmargin\relax
99 \let\endaddmargin\relax
100 \cslet{addmargin*}{\relax}%
101 \cslet{endaddmargin*}{\relax}%
102 \NewDocumentEnvironment{addmargin}{s O{} m}%
103 {%
104 \LWR@stopars%
105 \setlength{\LWR@templengthtwo}{#3}%
106 \ifblank{#2}{%
107 {%
108   \begin{BlockClass}[%
109     \LWR@print@mbox{margin-left:\LWR@printlength{\LWR@templengthtwo}} ;%
110     \LWR@print@mbox{margin-right:\LWR@printlength{\LWR@templengthtwo}}%
111   ]{addmargin}%
112 }%
113 {%
114   \setlength{\LWR@templengthone}{#2}%
115   \begin{BlockClass}[%
116     \LWR@print@mbox{margin-left:\LWR@printlength{\LWR@templengthone}} ;%
117     \LWR@print@mbox{margin-right:\LWR@printlength{\LWR@templengthtwo}}%
118   ]{addmargin}%
119 }
```

```

119 }
120 }
121 {\end{BlockClass}\LWR@startpars}

```

Ref to create a starred environment:

<https://tex.stackexchange.com/questions/45401/use-the-s-star-argument-with-newdocumentenvironment>

```

122
123 \ExplSyntaxOn
124 \cs_new:cpn {addmargin*} {\addmargin*}
125 \cs_new_eq:cN {\endaddmargin*} \endaddmargin
126 \ExplSyntaxOff
127
128 \DeclareDocumentCommand{\marginline}{m}{\marginpar{#1}}

```

File 363 l warp-scrhack.sty

§ 463 Package **scrhack**

Pkg scrhack scrhack is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{scrhack}[2018/03/30]

File 364 l warp-scrlayer.sty

§ 464 Package **scrlayer**

(Emulates or patches code by MARKUS KOHM.)

Pkg scrlayer scrlayer is emulated.

⚠ Not fully tested! Please send bug reports!

for HTML output: 1 \LWR@ProvidesPackageDrop{scrlayer}[2018/03/30]

```

2 \newcommand*{\DeclareSectionNumberDepth}[2]{}
3 \newcommand*{\DeclareLayer}[2][]{}
4 \newcommand*{\DeclareNewLayer}[2][]{}
5 \newcommand*{\ProvideLayer}[2][]{}
6 \newcommand*{\RedeclareLayer}[2][]{}
7 \newcommand*{\ModifyLayer}[2][]{}
8 \newcommand*{\layerhalign}{}%
9 \newcommand*{\layervalign}{}%
10 \newcommand*{\layerxoffset}{}%
11 \newcommand*{\layeryoffset}{}%
12 \newcommand*{\layerwidth}{}%
13 \newcommand*{\layerheight}{}%
14 \providecommand*{\LenToUnit}[1]{\strip@pt\dimexpr#1*\p@\/\unitlength}

```

```
15 \newcommand*\{\putUL}[1]{}
16 \newcommand*\{\putUR}[1]{}
17 \newcommand*\{\putLL}[1]{}
18 \newcommand*\{\putLR}[1]{}
19 \newcommand*\{\putC}[1]{}
20 \newcommand*\{\GetLayerContents}[1]{}
21 \newcommand*\{\IfLayerExists}[3]{#3}
22 \newcommand*\{\DestroyLayer}[1]{}
23 \newcommand*\{\layercontentsmeasure}{}
24 \newcommand*\{\currentpagestyle}{}
25 \newcommand*\{\BeforeSelectAnyPageStyle}[1]{}
26 \newcommand*\{\AfterSelectAnyPageStyle}[1]{}
27 \newcommand*\{\DeclarePageStyleAlias}[2]{}
28 \newcommand*\{\DeclareNewPageStyleAlias}[2]{}
29 \newcommand*\{\ProvidePageStyleAlias}[2]{}
30 \newcommand*\{\RedeclarePageStyleAlias}[2]{}
31 \newcommand*\{\DestroyPageStyleAlias}[1]{}
32 \newcommand*\{\GetRealPageStyle}[1]{}
33 \newcommand*\{\DeclarePageStyleByLayers}[3][]{}
34 \newcommand*\{\DeclareNewPageStyleByLayers}[3][]{}
35 \newcommand*\{\ProvidePageStyleByLayers}[3][]{}
36 \newcommand*\{\RedeclarePageStyleByLayers}[3][]{}
37 \NewDocumentCommand{\ForEachLayerOfPageStyle}{s m m}{}
38 \newcommand*\{\AddLayersToPageStyle}[2]{}
39 \newcommand*\{\AddLayersAtBeginOfPageStyle}[2]{}
40 \newcommand*\{\AddLayersAtEndOfPageStyle}[2]{}
41 \newcommand*\{\RemoveLayersFromPageStyle}[2]{}
42 \newcommand*\{\AddLayersToPageStyleBeforeLayer}[3]{}
43 \newcommand*\{\AddLayersToPageStyleAfterLayer}[3]{}
44 \newcommand*\{\UnifyLayersAtPageStyle}[1]{}
45 \newcommand*\{\ModifyLayerPageStyleOptions}[2]{}
46 \newcommand*\{\AddToLayerPageStyleOptions}[2]{}
47 \newcommand*\{\IfLayerPageStyleExists}[3]{#3}
48 \newcommand*\{\IfRealLayerPageStyleExists}[3]{#3}
49 \newcommand*\{\IfLayerAtPageStyle}[4]{#4}
50 \newcommand*\{\IfSomeLayerAtPageStyle}[4]{#4}
51 \newcommand*\{\IfLayersAtPageStyle}[4]{#4}
52 \newcommand*\{\DestroyRealLayerPageStyle}[1]{}
53 @ifundefined{fooheight}{\newlength\fooheight}{}}
54 \DeclareDocumentCommand{\automark}{s o m}{}
55 \DeclareDocumentCommand{\manualmark}{}{m}
56 \DeclareDocumentCommand{\MakeMarkcase}{m}{#1}

57 \newcommand*\{\partmarkformat}{}
58 \if@chapter
59 \newcommand*\{\chaptermarkformat}{}
60 \fi
61 \newcommand*\{\sectionmarkformat}{}
62 \DeclareDocumentCommand{\GenericMarkFormat}{m}{}

63 \newcommand*\{\@mkleft}[1]{}
64 \newcommand*\{\@mkright}[1]{}
65 \newcommand*\{\@mkdouble}[1]{}
66 \newcommand*\{\@mkboth}[2]{}
67 \newcommand*\{\scrlayerInitInterface}[1][]{}
```

```
68 \newcommand{\scrlayerAddToInterface}[3][]{}
69 \newcommand{\scrlayerAddCsToInterface}[3][]{}
70 \newcommand{\scrlayerOnAutoRemoveInterface}[2][]{}
```

File 365 **l warp-scrlayer-notecolumn.sty**

§ 465 Package **scrlayer-notecolumn**

(Emulates or patches code by MARKUS KOHM.)

Pkg scrlayer-notecolumn scrlayer-notecolumn is emulated.

 **Not fully tested!** [Please send bug reports!](#)

for HTML output: 1 \LWR@ProvidesPackageDrop{scrlayer-notecolumn}[2018/02/02]

```
2 \newcommand*{\DeclareNoteColumn}[2][]{}
3 \newcommand*{\DeclareNewNoteColumn}[2][]{}
4 \newcommand*{\ProvideNoteColumn}[2][]{}
5 \newcommand*{\RedeclareNoteColumn}[2][]{}
6 \NewDocumentCommand{\makenote}{s o m}{\marginpar{\#3}}
7 \newcommand*{\syncwithnotecolumn}[1][]{}
8 \newcommand*{\syncwithnotecolumns}[1][]{}
9 \newcommand*{\clearnotecolumn}[1][]{}
10 \newcommand*{\clearnotecolumns}[1][]{}
```

File 366 **l warp-scrlayer-scrpage.sty**

§ 466 Package **scrlayer-scrpage**

(Emulates or patches code by MARKUS KOHM.)

Pkg scrlayer-scrpage scrlayer-scrpage is ignored.

 **Not fully tested!** [Please send bug reports!](#)

for HTML output: 1 \LWR@ProvidesPackageDrop{scrlayer-scrpage}[2018/03/30]

```
2 \@ifundefined{fooheight}{\newlength\fooheight}{}
3 \NewDocumentCommand{\lehead}{s o m}{}
4 \NewDocumentCommand{\cehead}{s o m}{}
5 \NewDocumentCommand{\rehead}{s o m}{}
6 \NewDocumentCommand{\lohead}{s o m}{}
7 \NewDocumentCommand{\cohead}{s o m}{}
8 \NewDocumentCommand{\rohead}{s o m}{}
9 \NewDocumentCommand{\lefoot}{s o m}{}
10 \NewDocumentCommand{\ceffoot}{s o m}{}
11 \NewDocumentCommand{\reffoot}{s o m}{}
12 \NewDocumentCommand{\lofoot}{s o m}{}
13 \NewDocumentCommand{\cofoot}{s o m}{}
```

```

14 \NewDocumentCommand{\rofoot}{s o m}{}
15 \NewDocumentCommand{\ohead}{s o m}{}
16 \NewDocumentCommand{\chead}{s o m}{}
17 \NewDocumentCommand{\ihead}{s o m}{}
18 \NewDocumentCommand{\ofoot}{s o m}{}
19 \NewDocumentCommand{\cfoot}{s o m}{}
20 \NewDocumentCommand{\ifoot}{s o m}{}
21 \DeclareDocumentCommand{\MakeMarkcase}{m}{#1}
22 \newcommand*{\defpairofpagestyles}[3][]{}
23 \newcommand*{\newpairofpagestyles}[3][]{}
24 \newcommand*{\renewpairofpagestyles}[3][]{}
25 \newcommand*{\providepairofpagestyles}[3][]{}

26 \newcommand*{\clearmainofpairofpagestyles}(){}
27 \newcommand*{\clearplainofpairofpagestyles}(){}
28 \newcommand*{\clearpairofpagestyles}(){}
29 \newcommand*{\clearscrheadings}){}
30 \newcommand*{\clearscrheadfoot}){}
31 \newcommand*{\clearscrplain}{}}

32 \NewDocumentCommand{\deftriplepagestyle}{m o o m m m m m m}{}
33 \NewDocumentCommand{\newtriplepagestyle}{m o o m m m m m m}{}
34 \NewDocumentCommand{\renewtriplepagestyle}{m o o m m m m m m}{}
35 \NewDocumentCommand{\providetriplepagestyle}{m o o m m m m m m}{}
36 \newcommand*{\defpagestyle}[3]){}
37 \newcommand*{\newpagestyle}[3]){}
38 \newcommand*{\providepagestyle}[3]){}
39 \newcommand*{\renewpagestyle}[3]){}

```

File 367 **lwarf-scrpage2.sty**

§ 467 Package **scrpage2**

(Emulates or patches code by MARKUS KOHM.)

Pkg scrpage2 **scrpage2** is ignored.

⚠ **Not fully tested!** Please send bug reports!

for HTML output: 1 \LWR@ProvidesPackageDrop{scrpage2}[2018/03/30]

```

2 \@ifundefined{fooheight}{\newlength\fooheight}{}
3 \NewDocumentCommand{\lehead}{o m}{}
4 \NewDocumentCommand{\cehead}{o m}{}
5 \NewDocumentCommand{\rehead}{o m}{}
6 \NewDocumentCommand{\lohead}{o m}{}
7 \NewDocumentCommand{\cohead}{o m}{}
8 \NewDocumentCommand{\rohead}{o m}{}
9 \NewDocumentCommand{\lefoot}{o m}{}
10 \NewDocumentCommand{\ceffoot}{o m}{}
11 \NewDocumentCommand{\refoot}{o m}{}
12 \NewDocumentCommand{\lofoot}{o m}{}

```

```

13 \NewDocumentCommand{\cofoot}{o m}{}
14 \NewDocumentCommand{\rofoot}{o m}{}
15 \NewDocumentCommand{\ohead}{o m}{}
16 \NewDocumentCommand{\chead}{o m}{}
17 \NewDocumentCommand{\ihead}{o m}{}
18 \NewDocumentCommand{\ofoot}{o m}{}
19 \NewDocumentCommand{\cfoot}{o m}{}
20 \NewDocumentCommand{\ifoot}{o m}{}
21 \DeclareDocumentCommand{\automark}{o m}{}
22 \DeclareDocumentCommand{\manualmark}{}{#1}
23 \DeclareDocumentCommand{\MakeMarkcase}{m}{#1}
24 \NewDocumentCommand{\deftripstyle}{m o o m m m m m}{}
25 \NewDocumentCommand{\defpagestyle}{s m m m}{}
26 \NewDocumentCommand{\newpagestyle}{s m m m}{}
27 \NewDocumentCommand{\renewpagestyle}{s m m m}{}
28 \NewDocumentCommand{\providepagestyle}{s m m m}{}
29 \newcommand{\partmarkformat}{}
30 \if@chapter
31 \newcommand{\chaptermarkformat}{}
32 \fi
33 \newcommand{\sectionmarkformat}{}
34 \newcommand{\subsectionmarkformat}{}
35 \newcommand{\subsubsectionmarkformat}{}
36 \newcommand{\paragraphmarkformat}{}
37 \newcommand{\ subparagraphmarkformat}{}
38
39 \newcommand*{\clearscrheadings}{}
40 \newcommand*{\clearscrheadfoot}{}
41 \newcommand*{\clearscrplain}{}

```

File 368 **l warp-section.sty**

§ 468 Package **section**

Pkg **section** **section** is ignored.

(Emulates or patches code by OLIVER PRETZEL.)

for **HTML output**: 1 \LWR@ProvidesPackageDrop{section}

```

2 \ifx\chapter\undefined
3   \def\chsiz{\Large}\def\hdsiz{\huge}\else
4   \def\chsiz{\huge}\def\hdsiz{\Huge}
5 \fi
6 \let\ttsize\LARGE
7 \let\ausize\large
8 \let\dasize\large
9 \let\secsiz\Large
10 \let\subsize\large
11 \let\hdpos\raggedright
12 \newcounter{hddepth}
13 \let\fpind\relax
14 \def\ttfnt{}
```

```
15 \def\hdfnt{}  
16 \def\fefnt{}  
17 \def\thfnt{}  
18 \def\pgfnt{}  
19 \def\hmkfnt{}  
20 \let\mkcse\uppercase  
21 \def\hddot{}  
22 \def\cpdot{:}  
23 \def\nmdot{}  
24 \ifx\secindent\undefined  
25   \newdimen\secindent  
26   \newskip\secpreskp  
27   \newskip\secpstskp  
28   \newdimen\subindent  
29   \newskip\subpreskp  
30   \newskip\subpstskp  
31   \newskip\parpstskp  
32   \newcount\c@hddepth  
33 \fi
```

File 369 **l warp-sectionbreak.sty**

§ 469 Package **sectionbreak**

(Emulates or patches code by MICHAL HOFTICH.)

Pkg sectionbreak sectionbreak is patched for use by l warp.

for HTML output:

```
1 \LWR@ProvidesPackagePass{sectionbreak}[2018-01-03]  
  
2 \renewcommand\asterism{\HTMLUnicode{2042}}  
3  
4 \renewcommand\pre@sectionbreak{}  
5 \renewcommand\post@sectionbreak{}  
6  
7 \renewcommand\print@sectionbreak[1]{%  
8 \begin{center}  
9 #1  
10 \end{center}  
11 }  
12
```

File 370 **l warp-sectsty.sty**

§ 470 Package **sectsty**

(Emulates or patches code by ROWLAND McDONNELL.)

Pkg sectsty sectsty is ignored.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{sectsty}[2002/02/25]
```

```

2 \newcommand*\{\partfont}      [1] {}
3 \newcommand*\{\partnumberfont} [1] {}
4 \newcommand*\{\parttitlefont}  [1] {}
5 \newcommand*\{\chapterfont}   [1] {}
6 \newcommand*\{\chapternumberfont} [1] {}
7 \newcommand*\{\chaptertitlefont} [1] {}
8 \newcommand*\{\sectionfont}   [1] {}
9 \newcommand*\{\subsectionfont} [1] {}
10 \newcommand*\{\subsubsectionfont} [1] {}
11 \newcommand*\{\paragraphfont}  [1] {}
12 \newcommand*\{\ subparagraphfont} [1] {}
13 \newcommand*\{\minisectionfont} [1] {}
14 \newcommand*\{\allsectionsfont}[1] {}
15 \newcommand{\nohang}{}

```

\sectionrule is only to be used in *font commands, thus it is ignored.

```

16 \newcommand*\{\sectionrule}[5]{}
17
18 \def\ulemheading#1#2{}

```

File 371 **l warp-semantic-markup.sty**

§ 471 Package **semantic-markup**

(Emulates or patches code by ANDREW A. CASHNER.)

Pkg semantic-markup semantic-markup is patched for use by l warp.

⚠ If using the endnotes option, add \theendnotes where desired.

for HTML output: 1 \LWR@ProvidesPackagePass{semantic-markup}[2018/05/21]

The endnotes must be printed by the user before the end of the document, since the end is after the HTML footer, etc.

```

2 \ifendnotes
3 \RenewDocumentCommand{\SetupEndnotes}{}{%
4     \let\footnote=\endnote
5     \AtEndDocument{\DoBeforeEndnotes{\EndnoteFont\theendnotes}}%
6 }
7 \fi

```

HTML unicode characters from musicography are used.

```

8 \RequirePackage{musicography}
9
10 \let\f\musFlat
11 \let\sh\musSharp
12 \let\na\musNatural

```

The `\musfig` is placed inside a hashed image, with a simple `alt` tag.

```

13 \RequirePackage{amsmath}
14
15 \RenewDocumentCommand{\musfig}{ m m }{%
16     \LWR@subsingledollar*%
17     {#1/#2}% alt tag
18     {\musfig}% addl' hashing
19     {\% contents
20         \LWR@origensuredmath{%
21             \genfrac{}{}{0pt}{1}{\text{#1}}{\text{#2}}%
22         }%
23     }%
24 }

```

The `\meter` is taken from `musicography`, and becomes a hashed image with a simple `alt` tag.

```

25 \RenewDocumentCommand{\meter}{ m m }{%
26     \musMeter{#1}{#2}%
27 }

```

File 372 **l warp-setspace.sty**

§ 472 Package **setspace**

(Emulates or patches code by ROBIN FAIRBAIRNS.)

Pkg `setspace` **setspace** is emulated.

Discard all options for `l warp-setspace`:

for HTML output:

```

1 \LWR@ProvidesPackageDrop{setspace}[2011/12/19]
2
3 \newcommand*{\setstretch}[1]{}
4 \newcommand*{\SetSinglespace}[1]{}
5 \newcommand*{\singlespacing}{}
6 \newcommand*{\onehalfspacing}{}
7 \newcommand*{\doublespacing}{}
8
9 \newenvironment*{singlespace}
10 {
11 \LWR@forcenewpage
12 \BlockClass{singlespace}
13 }
14 {\endBlockClass}
15
16 \newenvironment*{singlespace*}
17 {
18 \LWR@forcenewpage
19 \BlockClass{singlespace}
20 }
21 {\endBlockClass}

```

```
22
23 \newenvironment*{spacing}[1]{
24
25 }{
26
27 }
28
29 \newenvironment*{onehalfspace}
30 {
31 \LWR@forcenewpage
32 \BlockClass{onehalfspace}
33 }
34 {\endBlockClass}
35
36 \newenvironment*{doublespace}
37 {
38 \LWR@forcenewpage
39 \BlockClass{doublespace}
40 }
41 {\endBlockClass}
```

File 373 l warp-shadow.sty**§ 473 Package shadow**

(Emulates or patches code by MAURO ORLANDINI.)

Pkg shadow shadow is emulated.

for HTML output: Discard all options for l warp-shadow:

```
1 \LWR@ProvidesPackageDrop{shadow}[2003/02/19]

2 \newdimen\sboxsep
3 \newdimen\sboxrule
4 \newdimen\sdim
5
6 \newcommand{\shabox}[1]{%
7 \InlineClass{shabox}{#1}%
8 }
```

File 374 l warp-shapepar.sty**§ 474 Package shapepar**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg shapepar shapepar is patched for use by l warp. Shapes appear in print mode, as well as inside a `\teximage`, but are ignored for HTML.

for HTML output: 1 \LWR@ProvidesPackagePass{shapepar}[2013/03/26]

```
2 \newcommand*{\LWR@HTML@shapepar}[2][]{}
3 \LWR@formatted{shapepar}
4
5 \NewDocumentCommand{\LWR@HTML@cutout}{m d()}{}
6 \LWR@formatted{cutout}
```

File 375 l warp-showidx.sty**§ 475 Package showidx**

Pkg showidx showidx is ignored.

for HTML output: Discard all options for l warp-showidx:

```
1 \LWR@ProvidesPackageDrop{showidx}[2014/09/29]
```

\@wrindex is redefined \AtBeginDocument by the l warp core.

File 376 l warp-showkeys.sty**§ 476 Package showkeys**

(Emulates or patches code by DAVID CARLISLE, MORTEN HØGHOLM.)

Pkg showkeys showkeys is ignored.

for HTML output: Discard all options for l warp-showkeys:

```
1 \LWR@ProvidesPackageDrop{showkeys}[2014/10/28]
```

```
2 \NewDocumentCommand{\showkeys}{s}{}{}
```

File 377 l warp-showtags.sty**§ 477 Package showtags**

Pkg showtags showtags is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{showtags}% no version is given

```
2 \newcommand{\thecitetag}[1]{}{}
```

File 378 l warp-sidecap.sty**§ 478 Package sidecap**

(Emulates or patches code by ROLF NIEPRASCHK, HUBERT GÄSSLEIN.)

Pkg sidecap sidecap is emulated.

for HTML output: Discard all options for l warp-sidecap.

```
1 \LWR@ProvidesPackageDrop{sidecap}[2003/06/06]
```

See:

[http://tex.stackexchange.com/questions/45401/
use-the-s-star-argument-with-newdocumentenvironment](http://tex.stackexchange.com/questions/45401/use-the-s-star-argument-with-newdocumentenvironment)
regarding the creation of starred environments with xparse.

```
2 \NewDocumentEnvironment{SCtable}{soo}
3 {\IfValueTF{#3}{\table[#3]}{\table}}
4 {\endtable}
5
6 \ExplSyntaxOn
7 \cs_new:cpx {SCtable*} {\SCtable*}
8 \cs_new_eq:cN {endSCtable*} \endSCtable
9 \ExplSyntaxOff
10
11
12 \NewDocumentEnvironment{SCfigure}{soo}
13 {\IfValueTF{#3}{\figure[#3]}{\figure}}
14 {\endfigure}
15
16 \ExplSyntaxOn
17 \cs_new:cpx {SCfigure*} {\SCfigure*}
18 \cs_new_eq:cN {endSCfigure*} \endSCfigure
19 \ExplSyntaxOff
20
21
22 \newenvironment*{wide}{}{}
```

File 379 l warp-sidenotes.sty**§ 479 Package sidenotes**

(Emulates or patches code by ANDY THOMAS, OLIVER SCHEBAUM.)

Pkg sidenotes Patched for l warp.

for HTML output: Load the original package:

```
1 \LWR@ProvidesPackagePass{sidenotes}
```

The following patch `sidenotes` for use with `lwarp`:

```
\sidecaption * [<entry>] [<offset>] {<text>}
 2 \RenewDocumentCommand \sidecaption {s o o +m}
 3 {
 4   \LWR@stopars
 5   \begingroup
 6   \captionsetup{style=sidecaption}
 7   \IfBooleanTF{#1}
 8   { % starred
 9     \begin{BlockClass}[border:none ; box-shadow:none]{marginblock}
10     \caption*{#4}
11     \end{BlockClass}
12   }
13   { % unstarred
14     \IfNoValueOrEmptyTF{#2}
15     {\def\@sidenotes@sidecaption@tof{#4}}
16     {\def\@sidenotes@sidecaption@tof{#2}}
17     \begin{BlockClass}[border:none ; box-shadow:none]{marginblock}
18     \caption[\@sidenotes@sidecaption@tof]{#4}
19     \end{BlockClass}
20   }
21   \endgroup
22   \LWR@startpars
23 }
```

Borrowed from the `lwarp` version of `keyfloat`:

```
24 \NewDocumentEnvironment{KFLTsidenotes@marginfloat}{O{-1.2ex} m}
25 {%
26   \LWR@BlockClassWP{float:right; width:2in; margin:10pt}{}{marginblock}%
27   \captionsetup{type=#2}%
28 }
29 {%
30   \endLWR@BlockClassWP%
31 }
32
33 \RenewDocumentEnvironment{marginfigure}{o}
34   {\begin{KFLTsidenotes@marginfloat}{figure}}
35   {\end{KFLTsidenotes@marginfloat}}
36
37 \RenewDocumentEnvironment{margintable}{o}
38   {\begin{KFLTsidenotes@marginfloat}{table}}
39   {\end{KFLTsidenotes@marginfloat}}
```

The following were changed by `sidenotes`, and now are reset back to their `lwarp`-supported originals:

Restoring the definition from the `LATEX2E article.cls` source:

```
40 \renewenvironment{figure*}
41   {\@dblfloat{figure}}
```

```

42           {\end{dblfloat}}
43
44 \renewenvironment{table*}
45         {@dblfloat{table}}
46     {\end{dblfloat}}

```

For MATHJAX:

 Note that sidenotes does not support `\sidenote` inside math in print mode. Use `\sidenotemark` and `\sidenotetext` instead.

```

47 \begin{warpMathJax}
48 \providecommand{\sidenotename}{\sidenote}
49 \appto{\LWR@syncnotenumbers}{\LWR@syncconenumber{\LWR@sidenote}{\thesidenote}}
50 \appto{\LWR@syncnotenames}{\LWR@syncconenotename{\LWR@sidenote}{\sidenotename}}
51 \CustomizeMathJax{\def{\LWR@sidenote{1}}}
52 \CustomizeMathJax{\newcommand{\sidenotemark}[1][\LWR@sidenote]{{}^{\mathrm{#1}}}}
53 \end{warpMathJax}

```

The following is not defined since is not allowed inside math in print mode, and also would have to be modified to parse the optional offset argument:

```
\CustomizeMathJax{\newcommand{\sidenote}[2][\LWR@sidenote]{{}^{\mathrm{#1}}}}
```

File 380 lwarf-SIunits.sty

§ 480 Package **Slunits**

(Emulates or patches code by MARCEL HELDOORN.)

Pkg SIunits Slunits is patched for use by lwarf.

For SVG math, it is recommended to use `\unit` where possible, which combines the entire expression into a single `lateximage`, and adds the `alt` tag containing the L^AT_EX code, allowing for copy/paste. When units are used outside of the `\unit` macro, each unit macro will have its own `lateximage`, and each will have the `alt` tag set according to `\MathImageAltText`, which defaults to `(math image)`.

For MATHJAX, individual units used in text will appear as SVG images, since `\ensuremath` is used in the original definitions, and `\ensuremath` often has expressions which do not work well in MATHJAX, so it is always forced to an SVG image. If, however, `\unit` is used, the result is expressed with MATHJAX instead of an SVG image.

for HTML output: 1 \LWR@ProvidesPackagePass{SIunits}[2007/12/02]

Patched for copy/paste with the HTML alt tag:

```

2 \ifbool{mathjax}{
3     \DeclareRobustCommand{\LWR@HTML@unit}[2]{%
4         \LWR@subsingle$*% lwarf
5         {%

```

```

6           \textbackslash{}unit\{\LWR@HTMLsanitize{\#1}\}%
7           \{ \LWR@HTMLsanitize{\#2}\} extra space
8       }%
9       {SIunits} add'l hashing
10      {%
11          #1\,{#2}%
12      }% contents
13  }
14 }% not MathJax
15 \DeclareRobustCommand{\LWR@HTML@unit}[2]{%
16     \@inunitcommandtrue% original
17     \LWR@subsingledollar*% lwarp
18     {%
19         \textbackslash{}unit\{\LWR@HTMLsanitize{\#1}\}%
20         \{ \LWR@HTMLsanitize{\#2}\} extra space
21     }%
22     {SIunits} add'l hashing
23     {%
24         \LWR@origensuredmath{%
25             \SI@fstyle{%
26                 {\#1}\@qsk\period@active{\#2}%
27             }% original
28         }%
29     }% contents
30     \@inunitcommandfalse% original
31   }
32 }% not MathJax
33 \LWR@formatted{unit}

```

For MATHJAX:

```

34 \begin{warpMathJax}
35 \LWR@infoprocessingmathjax{SIunits}
36
37 \CustomizeMathJax{\newcommand{\one}{}}
38 \CustomizeMathJax{\newcommand{\meter}{\metre}}
39 \CustomizeMathJax{\newcommand{\deka}{\deca}}
40 \CustomizeMathJax{\newcommand{\dekad}{\decad}}
41 \CustomizeMathJax{\newcommand{\per}{/}}
42 \CustomizeMathJax{\newcommand{\usk}{\;}}
43 \CustomizeMathJax{\newcommand{\unit}[2]{\#1\,{\#2}}}
44 \CustomizeMathJax{\newcommand{\power}[2]{\#1^{\#2}}}
45
46 \AtBeginDocument{%
47   \if@redefsquare
48     \CustomizeMathJax{\renewcommand{\square}[1]{\power{\#1}{2}}}
49   \else
50     \if@defsquaren
51       \CustomizeMathJax{\newcommand{\squaren}[1]{\power{\#1}{2}}}
52     \else
53       \CustomizeMathJax{\renewcommand{\square}[1]{\power{\#1}{2}}}
54     \fi %\if@defsquaren
55   \fi %\if@redefsquare
56 }    %\AtBeginDocument
57

```

```
58 \CustomizeMathJax{\newcommand{\squared}{^2}}
59 \CustomizeMathJax{\newcommand{\cubic}[1]{\power{#1}{3}}}
60 \CustomizeMathJax{\newcommand{\cubed}{^3}}
61 \CustomizeMathJax{\newcommand{\fourth}[1]{\power{#1}{4}}}
62 \CustomizeMathJax{\newcommand{\reciprocal}[1]{\power{#1}{-1}}}
63 \CustomizeMathJax{\newcommand{\rp}{\reciprocal}}
64 \CustomizeMathJax{\newcommand{\rpsquare}[1]{\power{#1}{-2}}}
65 \CustomizeMathJax{\newcommand{\rpsquared}{^2}}
66 \CustomizeMathJax{\newcommand{\rpcubic}[1]{\power{#1}{-3}}}
67 \CustomizeMathJax{\newcommand{\rp cubed}{^3}}
68 \CustomizeMathJax{\newcommand{\rp fourth}{^4}}
69 \CustomizeMathJax{\newcommand{\yocto}{\mathrm{y}}}
70 \CustomizeMathJax{\newcommand{\zepto}{\mathrm{z}}}
71 \CustomizeMathJax{\newcommand{\atto}{\mathrm{a}}}
72 \CustomizeMathJax{\newcommand{\femto}{\mathrm{f}}}
73 \CustomizeMathJax{\newcommand{\pico}{\mathrm{p}}}
74 \CustomizeMathJax{\newcommand{\nano}{\mathrm{n}}}
75 \CustomizeMathJax{\newcommand{\micro}{\mathrm{\unicode{x00B5}}}}
76 \CustomizeMathJax{\newcommand{\milli}{\mathrm{m}}}
77 \CustomizeMathJax{\newcommand{\centi}{\mathrm{c}}}
78 \CustomizeMathJax{\newcommand{\deci}{\mathrm{d}}}
79 \CustomizeMathJax{\newcommand{\deca}{\mathrm{da}}}
80 \CustomizeMathJax{\newcommand{\hecto}{\mathrm{h}}}
81 \CustomizeMathJax{\newcommand{\kilo}{\mathrm{k}}}
82 \CustomizeMathJax{\newcommand{\mega}{\mathrm{M}}}
83 \CustomizeMathJax{\newcommand{\giga}{\mathrm{G}}}
84 \CustomizeMathJax{\newcommand{\tera}{\mathrm{T}}}
85 \CustomizeMathJax{\newcommand{\peta}{\mathrm{P}}}
86 \CustomizeMathJax{\newcommand{\exa}{\mathrm{E}}}
87 \CustomizeMathJax{\newcommand{\zetta}{\mathrm{Z}}}
88 \CustomizeMathJax{\newcommand{\yotta}{\mathrm{Y}}}
89 \CustomizeMathJax{\newcommand{\yoctod}{\power{10}{-24}}}
90 \CustomizeMathJax{\newcommand{\zeptod}{\power{10}{-21}}}
91 \CustomizeMathJax{\newcommand{\attod}{\power{10}{-18}}}
92 \CustomizeMathJax{\newcommand{\femtod}{\power{10}{-15}}}
93 \CustomizeMathJax{\newcommand{\picod}{\power{10}{-12}}}
94 \CustomizeMathJax{\newcommand{\nanod}{\power{10}{-9}}}
95 \CustomizeMathJax{\newcommand{\microd}{\power{10}{-6}}}
96 \CustomizeMathJax{\newcommand{\millid}{\power{10}{-3}}}
97 \CustomizeMathJax{\newcommand{\centid}{\power{10}{-2}}}
98 \CustomizeMathJax{\newcommand{\decid}{\power{10}{-1}}}
99 \CustomizeMathJax{\newcommand{\ decad}{\power{10}{1}}}
100 \CustomizeMathJax{\newcommand{\ hectod}{\power{10}{2}}}
101 \CustomizeMathJax{\newcommand{\ kilod}{\power{10}{3}}}
102 \CustomizeMathJax{\newcommand{\ megad}{\power{10}{6}}}
103 \CustomizeMathJax{\newcommand{\ gigad}{\power{10}{9}}}
104 \CustomizeMathJax{\newcommand{\ terad}{\power{10}{12}}}
105 \CustomizeMathJax{\newcommand{\ petad}{\power{10}{15}}}
106 \CustomizeMathJax{\newcommand{\ exad}{\power{10}{18}}}
107 \CustomizeMathJax{\newcommand{\ zettad}{\power{10}{21}}}
108 \CustomizeMathJax{\newcommand{\ yottad}{\power{10}{24}}}
109 \CustomizeMathJax{\newcommand{\ gram}{\mathrm{g}}}
110 \CustomizeMathJax{\newcommand{\ metre}{\mathrm{m}}}
111 \CustomizeMathJax{\newcommand{\ kilogram}{\mathrm{kilo}\mathrm{gram}}}
112 \CustomizeMathJax{\newcommand{\ second}{\mathrm{s}}}
```

```
113 \CustomizeMathJax{\newcommand{\ampere}{\mathrm{A}}}}
114 \CustomizeMathJax{\newcommand{\kelvin}{\mathrm{K}}}
115 \CustomizeMathJax{\newcommand{\mole}{\mathrm{mol}}}
116 \CustomizeMathJax{\newcommand{\candela}{\mathrm{cd}}}
117 \CustomizeMathJax{\newcommand{\radian}{\mathrm{rad}}}
118 \CustomizeMathJax{\newcommand{\steradian}{\mathrm{sr}}}
119 \CustomizeMathJax{\newcommand{\hertz}{\mathrm{Hz}}}
120 \CustomizeMathJax{\newcommand{\newton}{\mathrm{N}}}
121 \CustomizeMathJax{\newcommand{\pascal}{\mathrm{Pa}}}
122 \CustomizeMathJax{\newcommand{\joule}{\mathrm{J}}}
123 \CustomizeMathJax{\newcommand{\watt}{\mathrm{W}}}
124 \CustomizeMathJax{\newcommand{\coulomb}{\mathrm{C}}}
125 \CustomizeMathJax{\newcommand{\volt}{\mathrm{V}}}
126 \CustomizeMathJax{\newcommand{\farad}{\mathrm{F}}}
127 \CustomizeMathJax{\newcommand{\ohm}{\mathrm{\Omega}}}
128 \CustomizeMathJax{\newcommand{\siemens}{\mathrm{S}}}
129 \CustomizeMathJax{\newcommand{\weber}{\mathrm{Wb}}}
130 \CustomizeMathJax{\newcommand{\tesla}{\mathrm{T}}}
131 \CustomizeMathJax{\newcommand{\henry}{\mathrm{H}}}
132 \CustomizeMathJax{\newcommand{\degreecelsius}{\mathrm{\text{\textnormal{\\x2103}}}}}
133 \CustomizeMathJax{\newcommand{\celsius}{\mathrm{\text{\textnormal{\\degree}}}\mathrm{c}}}
134 \CustomizeMathJax{\newcommand{\lumen}{\mathrm{lm}}}
135 \CustomizeMathJax{\newcommand{\lux}{\mathrm{l}}\mathrm{x}}
136 \CustomizeMathJax{\newcommand{\becquerel}{\mathrm{Bq}}}
137 \CustomizeMathJax{\newcommand{\sievert}{\mathrm{Sv}}}
138 \CustomizeMathJax{\newcommand{\katal}{\mathrm{kat}}}
139
140 \ifdef{\radianbase}{%
141   \CustomizeMathJax{\newcommand{\radianbase}{%
142     {\mathrm{metre}\mathrm{us}\mathrm{k}\mathrm{reciprocal}\mathrm{metre}}}}
143   \CustomizeMathJax{\newcommand{\steradianbase}{%
144     {\mathrm{squaremetre}\mathrm{us}\mathrm{k}\mathrm{rpsquare}\mathrm{metre}}}}
145   \CustomizeMathJax{\newcommand{\hertzbase}{%
146     {\mathrm{reciprocal}\mathrm{second}}}}
147   \CustomizeMathJax{\newcommand{\newtonbase}{%
148     {\mathrm{metre}\mathrm{us}\mathrm{k}\mathrm{kilogram}\mathrm{us}\mathrm{k}\mathrm{second}\mathrm{rpsquared}}}}
149   \CustomizeMathJax{\newcommand{\pascalbase}{%
150     {\mathrm{reciprocal}\mathrm{metre}\mathrm{us}\mathrm{k}\mathrm{kilogram}\mathrm{us}\mathrm{k}\mathrm{second}\mathrm{rpsquared}}}}
151   \CustomizeMathJax{\newcommand{\joulebase}{%
152     {\mathrm{squaremetre}\mathrm{us}\mathrm{k}\mathrm{kilogram}\mathrm{us}\mathrm{k}\mathrm{second}\mathrm{rpsquared}}}}
153   \CustomizeMathJax{\newcommand{\wattbase}{%
154     {\mathrm{squaremetre}\mathrm{us}\mathrm{k}\mathrm{kilogram}\mathrm{us}\mathrm{k}\mathrm{rpcubic}\mathrm{second}}}}
155   \CustomizeMathJax{\newcommand{\coulombbase}{%
156     {\mathrm{ampere}\mathrm{us}\mathrm{k}\mathrm{second}}}}
157   \CustomizeMathJax{\newcommand{\voltbase}{%
158     {\mathrm{squaremetre}\mathrm{us}\mathrm{k}\mathrm{kilogram}\mathrm{us}\mathrm{k}\mathrm{rpcubic}\mathrm{second}\mathrm{us}\mathrm{k}\mathrm{reciprocal}\mathrm{ampere}}}}
159   \CustomizeMathJax{\newcommand{\faradbase}{%
160     {\mathrm{rpsquare}\mathrm{metre}\mathrm{us}\mathrm{k}\mathrm{reciprocal}\mathrm{kilogram}\mathrm{us}\mathrm{k}\mathrm{fourth}\mathrm{second}\mathrm{us}\mathrm{k}\mathrm{ampere}\mathrm{squared}}}}
161   \CustomizeMathJax{\newcommand{\ohmbase}{%
162     {\mathrm{squaremetre}\mathrm{us}\mathrm{k}\mathrm{kilogram}\mathrm{us}\mathrm{k}\mathrm{rpcubic}\mathrm{second}\mathrm{us}\mathrm{k}\mathrm{rpsquare}\mathrm{ampere}}}}
163   \CustomizeMathJax{\newcommand{\siemensbase}{%
164     {\mathrm{rpsquare}\mathrm{metre}\mathrm{us}\mathrm{k}\mathrm{reciprocal}\mathrm{kilogram}\mathrm{us}\mathrm{k}\mathrm{cubic}\mathrm{second}\mathrm{us}\mathrm{k}\mathrm{ampere}\mathrm{squared}}}}
165   \CustomizeMathJax{\newcommand{\weberbase}{%
166     {\mathrm{squaremetre}\mathrm{us}\mathrm{k}\mathrm{kilogram}\mathrm{us}\mathrm{k}\mathrm{second}\mathrm{rpsquared}\mathrm{us}\mathrm{k}\mathrm{reciprocal}\mathrm{ampere}}}}
167   \CustomizeMathJax{\newcommand{\teslabase}{%
```

```
168      {\kilogram\usk\second\rpsquared\usk\reciprocal\ampere}}
169 \CustomizeMathJax{\newcommand{\henrybase}%
170     {\squaremetre\usk\kilogram\usk\second\rpsquared\usk\rpsquare\ampere}}
171 \CustomizeMathJax{\newcommand{\celsiusbase}%
172     {\kelvin}}
173 \CustomizeMathJax{\newcommand{\lumenbase}%
174     {\candela\usk\squaremetre\usk\rpsquare\metre}}
175 \CustomizeMathJax{\newcommand{\luxbase}%
176     {\candela\usk\squaremetre\usk\rpfourth\metre}}
177 \CustomizeMathJax{\newcommand{\becquerelbase}%
178     {\hertzbase}}
179 \CustomizeMathJax{\newcommand{\graybase}%
180     {\squaremetre\usk\second\rpsquared}}
181 \CustomizeMathJax{\newcommand{\sievertbase}%
182     {\graybase}}
183 \CustomizeMathJax{\newcommand{\katalbase}%
184     {\rp\second\usk\mole }}
185 }{ }
186
187 \ifdef{\derradian}{%
188 \CustomizeMathJax{\newcommand{\derradian}%
189     {\metre\usk\reciprocal\metre}}
190 \CustomizeMathJax{\newcommand{\dersteradian}%
191     {\squaremetre\usk\rpsquare\metre}}
192 \CustomizeMathJax{\newcommand{\derhertz}%
193     {\reciprocal\second}}
194 \CustomizeMathJax{\newcommand{\dernewton}%
195     {\metre\usk\kilogram\usk\second\rpsquared}}
196 \CustomizeMathJax{\newcommand{\derpascal}%
197     {\newton\usk\rpsquare\metre}}
198 \CustomizeMathJax{\newcommand{\derjoule}%
199     {\newton\usk\metre}}
200 \CustomizeMathJax{\newcommand{\derwatt}%
201     {\joule\usk\reciprocal\second}}
202 \CustomizeMathJax{\newcommand{\dercoulomb}%
203     {\ampere\usk\second}}
204 \CustomizeMathJax{\newcommand{\dervolt}%
205     {\watt\usk\reciprocal\ampere}}
206 \CustomizeMathJax{\newcommand{\derfarad}%
207     {\coulomb\usk\reciprocal\volt}}
208 \CustomizeMathJax{\newcommand{\derohm}%
209     {\volt\usk\reciprocal\ampere}}
210 \CustomizeMathJax{\newcommand{\dersiemens}%
211     {\ampere\usk\reciprocal\volt}}
212 \CustomizeMathJax{\newcommand{\derweber}%
213     {\squaremetre\usk\kilogram\usk\second\rpsquared\usk\reciprocal\ampere}}
214 \CustomizeMathJax{\newcommand{\dertesla}%
215     {\weber\usk\rpsquare\metre}}
216 \CustomizeMathJax{\newcommand{\derhenry}%
217     {\weber\usk\reciprocal\ampere}}
218 \CustomizeMathJax{\newcommand{\dercelsius}%
219     {\kelvin}}
220 \CustomizeMathJax{\newcommand{\derlumen}%
221     {\candela\usk\steradian}}
222 \CustomizeMathJax{\newcommand{\derlux}%

```

```
223      {\lumen\usk\rpsquare\metre}}
224 \CustomizeMathJax{\newcommand{\derbecquerel}{%
225     {\derhertz}}}
226 \CustomizeMathJax{\newcommand{\dergray}{%
227     {\joule\usk\reciprocal{kilogram}}}}
228 \CustomizeMathJax{\newcommand{\dersievert}{%
229     {\dergray}}}
230 \CustomizeMathJax{\newcommand{\derkatal}{%
231     {\katalbase}}}
232 }{}}
233
234 \CustomizeMathJax{\newcommand{\minute}{\mathrm{min}}}
235 \CustomizeMathJax{\newcommand{\hour}{\mathrm{h}}}
236 \CustomizeMathJax{\newcommand{\day}{\mathrm{d}}}
237 \CustomizeMathJax{\newcommand{\degree}{\mathrm{^\circ}}}
238 \CustomizeMathJax{\newcommand{\paminute}{\mathrm{^\prime\prime}}}
239 \CustomizeMathJax{\newcommand{\arcminute}{\mathrm{^\prime}}}
240 \CustomizeMathJax{\newcommand{\pasecond}{\mathrm{^\prime\prime\prime}}}
241 \CustomizeMathJax{\newcommand{\arcsecond}{\mathrm{^\prime\prime\prime}}}
242 \CustomizeMathJax{\newcommand{\ton}{\mathrm{t}}}
243 \CustomizeMathJax{\newcommand{\tonne}{\mathrm{t}}}
244 \CustomizeMathJax{\newcommand{\liter}{\mathrm{L}}}
245 \CustomizeMathJax{\newcommand{\litre}{\mathrm{l}}}
246 \CustomizeMathJax{\newcommand{\neper}{\mathrm{Np}}}
247 \CustomizeMathJax{\newcommand{\bel}{\mathrm{B}}}
248 \CustomizeMathJax{\newcommand{\curie}{\mathrm{Ci}}}
249 \CustomizeMathJax{\newcommand{\rad}{\mathrm{rad}}}
250 \CustomizeMathJax{\newcommand{\arad}{\mathrm{rd}}}
251 \CustomizeMathJax{\newcommand{\rem}{\mathrm{rem}}}
252 \CustomizeMathJax{\newcommand{\roentgen}{\mathrm{R}}}
253 \CustomizeMathJax{\newcommand{\electronvolt}{\mathrm{eV}}}
254 \CustomizeMathJax{\newcommand{\atomicmass}{\mathrm{u}}}
255 \CustomizeMathJax{\newcommand{\atomicmassunit}{\mathrm{u}}}
256 \CustomizeMathJax{\newcommand{\dalton}{\mathrm{Da}}}
257 \CustomizeMathJax{\newcommand{\are}{\mathrm{a}}}
258 \CustomizeMathJax{\newcommand{\hectare}{\mathrm{hecto\are}}}
259 \CustomizeMathJax{\newcommand{\barn}{\mathrm{b}}}
260 \CustomizeMathJax{\newcommand{\bbar}{\mathrm{bar}}}
261 \CustomizeMathJax{\newcommand{\gal}{\mathrm{Gal}}}
262 \CustomizeMathJax{\newcommand{\angstrom}{\mathrm{\unicode{x00C5}}}}
263 \CustomizeMathJax{\newcommand{\rperminute}{\mathrm{r}\per\minute}}
264 \CustomizeMathJax{\newcommand{\rpersecond}{\mathrm{r}\per\second}}
265 \CustomizeMathJax{\newcommand{\squaremetre}{\mathrm{power{\metre}{2}}}}
266 \CustomizeMathJax{\newcommand{\cubicmetre}{\mathrm{cubic\metre}}}
267 \CustomizeMathJax{\newcommand{\graypersecond}{\mathrm{gray}\per\second}}
268 \CustomizeMathJax{\newcommand{\graypersecondnp}{\mathrm{gray\usk\reciprocal\second}}}
269 \CustomizeMathJax{\newcommand{\metrepersquaresecond}{\mathrm{metre\per\second\squared}}}
270 \CustomizeMathJax{\newcommand{\metrepersquaresecondnp}{\mathrm{metre\usk\second\rpsquared}}}
271 \CustomizeMathJax{\newcommand{\joulepermole}{\mathrm{joule\per\mole}}}
272 \CustomizeMathJax{\newcommand{\joulepermolenp}{\mathrm{joule\usk\reciprocal\mole}}}
273 \CustomizeMathJax{\newcommand{\molepercubicmetre}{\mathrm{mole\per\cubic\metre}}}
274 \CustomizeMathJax{\newcommand{\molepercubicmetrenp}{\mathrm{mole\usk\rpcubic\metre}}}
275 \CustomizeMathJax{\newcommand{\radianpersquaresecond}{\mathrm{radian\per\second\squared}}}
276 \CustomizeMathJax{\newcommand{\radianpersquaresecondnp}{\mathrm{radian\usk\second\rpsquared}}}
277 \CustomizeMathJax{\newcommand{\kilogramsquaremetrepersecond}{\mathrm{kilogram\usk\squaremetre\per\second}}}
```

```
278 \CustomizeMathJax{\newcommand{\kilogramsquaremetrepersecondnp}{\kilogram\usk\squaremetre\usk\reciprocal\metre}}\\
279 \CustomizeMathJax{\newcommand{\radianpersecond}{\radian\per\second}}\\
280 \CustomizeMathJax{\newcommand{\radianpersecondnp}{\radian\usk\reciprocal\second}}\\
281 \CustomizeMathJax{\newcommand{\squaremetrepercubicmetre}{\squaremetre\per\cubic\metre}}\\
282 \CustomizeMathJax{\newcommand{\squaremetrepercubicmetrenp}{\squaremetre\usk\rpcubic\metre}}\\
283 \CustomizeMathJax{\newcommand{\katalpercubicmetre}{\katal\per\cubic\metre}}\\
284 \CustomizeMathJax{\newcommand{\katalpercubicmetrenp}{\katal\usk\rpcubic\metre}}\\
285 \CustomizeMathJax{\newcommand{\coulombpermol}{\coulomb\per\mole}}\\
286 \CustomizeMathJax{\newcommand{\coulombpermolnp}{\coulomb\usk\reciprocal\mole}}\\
287 \CustomizeMathJax{\newcommand{\amperepersquaremetre}{\ampere\per\squaremetre}}\\
288 \CustomizeMathJax{\newcommand{\amperepersquaremetrenp}{\ampere\usk\rpsquare\metre}}\\
289 \CustomizeMathJax{\newcommand{\kilogrampercubicmetre}{\kilogram\per\cubic\metre}}\\
290 \CustomizeMathJax{\newcommand{\kilogrampercubicmetrenp}{\kilogram\usk\rpcubic\metre}}\\
291 \CustomizeMathJax{\newcommand{\squaremetrepernewtonsecond}{\squaremetre\per\newton\usk\second}}\\
292 \CustomizeMathJax{\newcommand{\squaremetrepernewtonsecondnp}{\squaremetre\usk\reciprocal\newton\usk\second}}\\
293 \CustomizeMathJax{\newcommand{\pascalsecond}{\pascal\usk\second}}\\
294 \CustomizeMathJax{\newcommand{\coulombpercubicmetre}{\coulomb\per\cubic\metre}}\\
295 \CustomizeMathJax{\newcommand{\coulombpercubicmetrenp}{\coulomb\usk\rpcubic\metre}}\\
296 \CustomizeMathJax{\newcommand{\amperemetresecond}{\ampere\usk\metre\usk\second}}\\
297 \CustomizeMathJax{\newcommand{\voltpermetre}{\volt\per\metre}}\\
298 \CustomizeMathJax{\newcommand{\voltpermetrenp}{\volt\usk\reciprocal\metre}}\\
299 \CustomizeMathJax{\newcommand{\coulombpersquaremetre}{\coulomb\per\squaremetre}}\\
300 \CustomizeMathJax{\newcommand{\coulombpersquaremetrenp}{\coulomb\usk\rpsquare\metre}}\\
301 \CustomizeMathJax{\newcommand{\faradpermetre}{\farad\per\metre}}\\
302 \CustomizeMathJax{\newcommand{\faradpermetrenp}{\farad\usk\reciprocal\metre}}\\
303 \CustomizeMathJax{\newcommand{\ohmmetre}{\ohm\usk\metre}}\\
304 \CustomizeMathJax{\newcommand{\kilowatthour}{\kilo\watt\hour}}\\
305 \CustomizeMathJax{\newcommand{\wattpersquaremetre}{\watt\per\squaremetre}}\\
306 \CustomizeMathJax{\newcommand{\wattpersquaremetrenp}{\watt\usk\rpsquare\metre}}\\
307 \CustomizeMathJax{\newcommand{\joulepersquaremetre}{\joule\per\squaremetre}}\\
308 \CustomizeMathJax{\newcommand{\joulepersquaremetrenp}{\joule\usk\rpsquare\metre}}\\
309 \CustomizeMathJax{\newcommand{\newtonpercubicmetre}{\newton\per\cubic\metre}}\\
310 \CustomizeMathJax{\newcommand{\newtonpercubicmetrenp}{\newton\usk\rpcubic\metre}}\\
311 \CustomizeMathJax{\newcommand{\newtonperkilogram}{\newton\per\kilogram}}\\
312 \CustomizeMathJax{\newcommand{\newtonperkilogramnp}{\newton\usk\reciprocal\kilogram}}\\
313 \CustomizeMathJax{\newcommand{\jouleperkelvin}{\joule\per\kelvin}}\\
314 \CustomizeMathJax{\newcommand{\jouleperkelvinnp}{\joule\usk\reciprocal\kelvin}}\\
315 \CustomizeMathJax{\newcommand{\jouleperkilogram}{\joule\per\kilogram}}\\
316 \CustomizeMathJax{\newcommand{\jouleperkilogramnp}{\joule\usk\reciprocal\kilogram}}\\
317 \CustomizeMathJax{\newcommand{\coulombperkilogram}{\coulomb\per\kilogram}}\\
318 \CustomizeMathJax{\newcommand{\coulombperkilogramnp}{\coulomb\usk\reciprocal\kilogram}}\\
319 \CustomizeMathJax{\newcommand{\squaremetrepersecond}{\squaremetre\per\second}}\\
320 \CustomizeMathJax{\newcommand{\squaremetrepersecondnp}{\squaremetre\usk\reciprocal\second}}\\
321 \CustomizeMathJax{\newcommand{\squaremetrepersquaresecond}{\squaremetre\per\second\squared}}\\
322 \CustomizeMathJax{\newcommand{\squaremetrepersquaresecondnp}{\squaremetre\usk\second\rpsquared}}\\
323 \CustomizeMathJax{\newcommand{\kilogrammetrepersecond}{\kilogram\usk\metre\per\second}}\\
324 \CustomizeMathJax{\newcommand{\kilogrammetrepersecondnp}{\kilogram\usk\metre\usk\reciprocal\second}}\\
325 \CustomizeMathJax{\newcommand{\candelapersquaremetre}{\candela\per\squaremetre}}\\
326 \CustomizeMathJax{\newcommand{\candelapersquaremetrenp}{\candela\usk\rpsquare\metre}}\\
327 \CustomizeMathJax{\newcommand{\amperepermetre}{\ampere\per\metre}}\\
328 \CustomizeMathJax{\newcommand{\amperepermetrenp}{\ampere\usk\reciprocal\metre}}\\
329 \CustomizeMathJax{\newcommand{\joulepertesla}{\joule\per\tesla}}\\
330 \CustomizeMathJax{\newcommand{\jouleperteslanp}{\joule\usk\reciprocal\tesla}}\\
331 \CustomizeMathJax{\newcommand{\henrypermetre}{\henry\per\metre}}\\
332 \CustomizeMathJax{\newcommand{\henrypermetrenp}{\henry\usk\reciprocal\metre}}
```

```
333 \CustomizeMathJax{\newcommand{\kilogrampersecond}{\kilogram\per\second}}
334 \CustomizeMathJax{\newcommand{\kilogrampersecondnp}{\kilogram\usk\reciprocal\second}}
335 \CustomizeMathJax{\newcommand{\kilogrampersquaremetresecond}{\kilogram\per\squaremetre\usk\second}}
336 \CustomizeMathJax{\newcommand{\kilogrampersquaremetresecondnp}{\kilogram\usk\rpsquare\metre\usk\reciprocal\second}}
337 \CustomizeMathJax{\newcommand{\kilogrampersquaremetre}{\kilogram\per\squaremetre}}
338 \CustomizeMathJax{\newcommand{\kilogrampersquaremetrenp}{\kilogram\usk\rpsquare\metre}}
339 \CustomizeMathJax{\newcommand{\kilogrampermetre}{\kilogram\per\metre}}
340 \CustomizeMathJax{\newcommand{\kilogrampermetrenp}{\kilogram\usk\reciprocal\metre}}
341 \CustomizeMathJax{\newcommand{\joulepermolekelvin}{\joule\per\mole\usk\kelvin}}
342 \CustomizeMathJax{\newcommand{\joulepermolekelvinnp}{\joule\usk\reciprocal\mole\usk\reciprocal\kelvin}}
343 \CustomizeMathJax{\newcommand{\kilogramperkilomole}{\kilogram\per\kilo\mole}}
344 \CustomizeMathJax{\newcommand{\kilogramperkilomolenp}{\kilogram\usk\kilo\reciprocal\mole}}
345 \CustomizeMathJax{\newcommand{\kilogramsquaremetre}{\kilogram\usk\squaremetre}}
346 \CustomizeMathJax{\newcommand{\kilogramsquaremetrenp}{\kilogramsquaremetre}}
347 \CustomizeMathJax{\newcommand{\kilogrammetrepersquaresecond}{\kilogram\usk\metre\per\second\squared}}
348 \CustomizeMathJax{\newcommand{\kilogrammetrepersquaresecondnp}{\kilogram\usk\metre\usk\second\rpsquare}}
349 \CustomizeMathJax{\newcommand{\newtonpersquaremetre}{\newton\per\squaremetre}}
350 \CustomizeMathJax{\newcommand{\newtonpersquaremetrenp}{\newton\usk\rpsquare\metre}}
351 \CustomizeMathJax{\newcommand{\persquaremetresecond}{1\per\squaremetre\usk\second}}
352 \CustomizeMathJax{\newcommand{\persquaremetresecondnp}{\rpsquare\metre\usk\reciprocal\second}}
353 \CustomizeMathJax{\newcommand{\wattperkilogram}{\watt\per\kilogram}}
354 \CustomizeMathJax{\newcommand{\wattperkilogramnp}{\watt\usk\reciprocal\kilogram}}
355 \CustomizeMathJax{\newcommand{\wattpercubicmetre}{\watt\per\cubic\metre}}
356 \CustomizeMathJax{\newcommand{\wattpercubicmetrenp}{\watt\usk\rpcubic\metre}}
357 \CustomizeMathJax{\newcommand{\wattpersquaremetresteradian}{\watt\per\squaremetre\usk\steradian}}
358 \CustomizeMathJax{\newcommand{\wattpersquaremetresteradiannp}{\watt\usk\rpsquare\metre\usk\rp\steradian}}
359 \CustomizeMathJax{\newcommand{\jouleperkilogramkelvin}{\joule\per\kilogram\usk\kelvin}}
360 \CustomizeMathJax{\newcommand{\jouleperkilogramkelvinnp}{\joule\usk\reciprocal\kilogram\usk\reciprocal\kelvin}}
361 \CustomizeMathJax{\newcommand{\squaremetreperkilogram}{\squaremetre\per\kilogram}}
362 \CustomizeMathJax{\newcommand{\rpsquaremetreperkilogram}{\squaremetre\usk\reciprocal\kilogram}}
363 \CustomizeMathJax{\newcommand{\cubicmetreperkilogram}{\cubic\metre\per\kilogram}}
364 \CustomizeMathJax{\newcommand{\rpcubicmetreperkilogram}{\cubic\metre\usk\reciprocal\kilogram}}
365 \CustomizeMathJax{\newcommand{\newtonpermetre}{\newton\per\metre}}
366 \CustomizeMathJax{\newcommand{\newtonpermetrenp}{\newton\usk\reciprocal\metre}}
367 \CustomizeMathJax{\newcommand{\Celsius}{\text{\scriptsize\texttt{\&#x2103}}}}
368 \CustomizeMathJax{\newcommand{\wattpermetrekelvin}{\watt\per\metre\usk\kelvin}}
369 \CustomizeMathJax{\newcommand{\wattpertrekelvinnp}{\watt\usk\reciprocal\metre\usk\reciprocal\kelvin}}
370 \CustomizeMathJax{\newcommand{\newtonmetre}{\newton\usk\metre} \CustomizeMathJax{\newcommand{\newtonmetre}{\newton\usk\metre}}}
371 \CustomizeMathJax{\newcommand{\squaremetrepercubicsecond}{\squaremetre\per\cubic\second}}
372 \CustomizeMathJax{\newcommand{\squaremetrepercubicsecondnp}{\squaremetre\usk\rpcubic\second}}
373 \CustomizeMathJax{\newcommand{\metrepersecond}{\metre\per\second}}
374 \CustomizeMathJax{\newcommand{\metrepersecondnp}{\metre\usk\reciprocal\second}}
375 \CustomizeMathJax{\newcommand{\joulepercubicmetre}{\joule\per\cubic\metre}}
376 \CustomizeMathJax{\newcommand{\joulepercubicmetrenp}{\joule\usk\rpcubic\metre}}
377 \CustomizeMathJax{\newcommand{\kilogrampercubicmetrecoulomb}{\kilogram\per\cubic\metre\usk\coulomb}}
378 \CustomizeMathJax{\newcommand{\kilogrampercubicmetrecoulombnp}{\kilogram\usk\rpcubic\metre\usk\reciprocal\coulomb}}
379 \CustomizeMathJax{\newcommand{\cubicmetrepersecond}{\cubic\metre\per\second}}
380 \CustomizeMathJax{\newcommand{\rpcubicmetrepersecond}{\cubic\metre\usk\reciprocal\second}}
381 \CustomizeMathJax{\newcommand{\kilogrampersecondcubicmetre}{\kilogram\per\second\usk\cubic\metre}}
382 \CustomizeMathJax{\newcommand{\kilogrampersecondcubicmetrenp}{\kilogram\usk\reciprocal\second\usk\rpcubic\metre}}
383 \end{warpMathJax}
```

File 381 **l warp-siunitx.sty**

§ 481 Package **siunitx**

(Emulates or patches code by JOSEPH WRIGHT.)

Pkg siunitx siunitx is patched for use by l warp.

fractions Due to *pdftotext* limitations, fraction output is replaced by symbol output for per-mode and quotient-mode.

⚠ **math mode required** Some units will require that the expression be placed inside math mode.

⚠ **tabular** Tabular S columns are rendered as simple c columns, and tabular s columns are not supported. These may be replaced by c columns with each cell contained in \num or \si.

⚠ **MathJax** For math mode with SVG display, the original siunitx code is used while generating the SVG image. For text mode, l warp uses an emulation which provides a very effective HTML interpretation of siunitx. For math expressions while using MATHJAX, a limited emulation is used. Most functions work reasonably well, but many options cannot be emulated. siunitx macros with more than one optional value cannot absorb the second optional value, and complicated parsing such as for \ang is not supported. The result usually looks fine, and otherwise is enough to get the meaning across.

l warp's MATHJAX emulation for siunitx is meant to be a stop-gap measure until an extension is included in MATHJAX. As of this writing, the third-party siunitx extension for MATHJAX is not currently hosted at any public CDN, thus siunitx is not usable with this extension unless a local copy of this extension is created first. See \MathJaxFilename to select a custom MathJax script, but l warp's emulation would have to be disabled as well.

Document modifications required for MATHJAX:

custom units • Custom units may be added with \CustomizeMathJax. See the l warp-siunitx code for examples.

⚠ **unit spacing** • Units work better using ~ between units instead of using periods.

⚠ **\square, \cubic** • To square or cube compound units, enclose the following compound units in braces:

\cubic{\centi\meter}

Single units do not require braces.

Also see **MATHJAX option**, section 8.7.4.

for HTML output: 1 \RequirePackage{xcolor}\% for \convertcolorspec
2
3 \LWR@ProvidesPackagePass{siunitx}[2018/05/17]

```

4 \AtBeginDocument{%
5   \DeclareSIUnit\bohr{\textit{a}\textsubscript{0}}
6   \DeclareSIUnit\clight{\textit{c}\textsubscript{0}}
7   \DeclareSIUnit\elementarycharge{\textit{e}}
8   \DeclareSIUnit\electronmass{\textit{m}\textsubscript{e}}
9   \DeclareSIUnit\hartree{\textit{E}\textsubscript{h}}
10  \DeclareSIUnit\planckbar{\LWR@siunitx@textplanckbar}
11 }% AtBeginDocument

```

\@ensuredmath is not supported inside an \hbox, so it must temporarily be restored to its original. Similar for \mbox. SVG math is created explicitly when necessary, using \LWR@subsingle dollar.

```

12
13 \ExplSyntaxOn
14 %

```

Modified to set set HTML \textcolor if not black:

```

15 \cs_undefine:N \__siunitx_print_aux:
16 \cs_new_protected:Npn \__siunitx_print_aux:
17 {
18   \text
19   {
20     \__siunitx_ensure_ltr:
21     {
22       \color@begingroup
23       \__siunitx_print_color:
24       \__siunitx_font_shape:
25       \__siunitx_font_weight:
26       \use:c
27       {
28         @_ \l__siunitx_print_type_tl _%
29         text \l__siunitx_font_family_tl :
30       }
31       \bool_if:NTF \l__siunitx_font_math_mode_bool
32       { \__siunitx_print_math: }
33       {
34         \LWR@findcurrenttextcolor% lwarp
35         \ifdefstring{\LWR@tempcolor}{000000}% lwarp
36         {\__siunitx_print_text:}% lwarp
37         {% lwarp
38           \LWR@textcurrentcolor% lwarp
39           \__siunitx_print_text:
40         }% lwarp
41       }% lwarp
42     }
43     \color@endgroup
44   }
45 }
46 }
47
48
49 \cs_undefine:N \__siunitx_set_math_fam:n
50 \cs_new_protected:Npn \__siunitx_set_math_fam:n #1 {

```

```

51 \int_new:c { c__siunitx_math #1 _int }
52 \group_begin:% lwarp
53   \LetLtxMacro{@ensuredmath}{\LWR@origensuredmath%} lwarp
54   \LetLtxMacro{\mbox}{\LWR@print@mbox%} lwarp
55   \hbox_set:Nn \l__siunitx_tmp_box
56   {
57     \ensuremath
58     {
59       \use:c { math #1 }
60       {
61         \int_gset:cn { c__siunitx_math #1 _int } { \fam }
62       }
63     }
64   }
65 \group_end:% lwarp
66 }
67
68 \cs_undefine:N \__siunitx_combined_output:n
69 \cs_new_protected:Npn \__siunitx_combined_output:n #1 {
70   \group_begin:% lwarp
71   \LetLtxMacro{@ensuredmath}{\LWR@origensuredmath%} lwarp
72   \LetLtxMacro{\mbox}{\LWR@print@mbox%} lwarp
73   \bool_if:NTF \l__siunitx_number_parse_bool
74   {
75     \tl_clear:N \l__siunitx_number_out_tl
76     \bool_set_false:N \l__siunitx_number_compound_bool
77     \__siunitx_number_output_parse:n {#1}
78   }
79 }
```

For parse-numbers=false:

```

80   \__siunitx_unit_output_pre_print:
81   \begingroup% lwarp
82     \boolfalse{mathjax}% lwarp
83 %   \__siunitx_print:nn { number } { \ensuremath {#1} }
84     \LWR@subsingledollar% lwarp
85     \textbackslash( \LWR@HTMLsanitize{#1} \textbackslash)% lwarp
86     \}{siunitx}{%
87       \__siunitx_print:nn { number } {%
88         \LWR@origensuredmath{#1}%
89       }%
90     }% lwarp
91   \endgroup% lwarp
92   \__siunitx_unit_output_print:
93 }
94 \group_end:% lwarp
95 }
```

For parse-numbers=false:

```

96 \cs_set_protected:Npn \__siunitx_range_numbers_aux:n #1
97 {
98   \bool_if:NTF \l__siunitx_number_parse_bool
99   {
```

```

100      \tl_clear:N \l__siunitx_number_out_tl
101      \tl_clear:N \l__siunitx_number_out_saved_tl
102      \bool_set_false:N \l__siunitx_number_compound_bool
103      \__siunitx_number_output_parse:n {#1}
104      \bool_if:NT \l__siunitx_number_compound_bool
105          { \msg_error:nnx { siunitx } { multi-part-range } {#1} }
106      }
107  {
108      \__siunitx_unit_output_pre_print:
109      \begingroup%    l warp
110          \boolfalse{mathjax}%    l warp
111 %         \__siunitx_print:nn { number } {#1}
112             \LWR@subsingle dollar{%
113                 \textbackslash( \LWR@HTMLsanitize{#1} \textbackslash)%
114             }{siunitx}{%
115                 \__siunitx_print:nn { number } {%
116                     \LWR@origensuredmath{#1}%
117                 }% l warp
118             }% l warp
119             \endgroup%    l warp
120             \__siunitx_unit_output_print:
121         }
122     }

```

For parse-numbers=false:

```

123 \cs_set_protected:Npn \__siunitx_angle_print_direct_aux:nn #1#2 {
124     \tl_if_empty:nF {#1}
125     {
126         \tl_set:Nn \l__siunitx_unit_tl {#2}
127         \begingroup%    l warp
128             \boolfalse{mathjax}%    l warp
129 %         \__siunitx_print:nn { number } {#1}
130             \LWR@subsingle dollar{%
131                 \textbackslash( \LWR@HTMLsanitize{#1} \textbackslash)%
132             }{siunitx}{%
133                 \__siunitx_print:nn { number } {%
134                     \LWR@origensuredmath{#1}%
135                 }% l warp
136             }% l warp
137             \endgroup%    l warp
138             \__siunitx_unit_output_print:
139     }
140 }
141 %

```

For quotients, the fraction code is replaced by the symbol code:

```

142 \cs_undefine:N \__siunitx_number_output_quotient_fraction:
143 \cs_new_protected:Npn \__siunitx_number_output_quotient_fraction: {
144     \bool_set_true:N \l__siunitx_number_compound_bool
145     \__siunitx_number_output_quotient_aux_i:
146     \tl_set_eq:NN \l__siunitx_number_out_tl
147         \l__siunitx_number_numerator_tl
148     \tl_put_right:NV \l__siunitx_number_out_tl \l__siunitx_output_quotient_tl

```

```

149 \tl_put_right:NV \l_siunitx_number_out_tl
150   \l_siunitx_number_denominator_tl
151 \__siunitx_number_output_single_aux:
152 }

```

For units, the fraction code is replaced by the symbol code:

```

153 \cs_undefine:N \__siunitx_unit_format_fraction_fraction:
154 \cs_new_protected:Npn \__siunitx_unit_format_fraction_fraction: {
155   \__siunitx_unit_format_fraction_symbol_aux:
156   \int_compare:nNnT { \l_siunitx_unit_denominator_int } > { 1 }
157   {
158     \bool_if:NT \l_siunitx_unit_denominator_bracket_bool
159     {
160       \tl_put_left:NV \l_siunitx_unit_denominator_tl \l_siunitx_bracket_open_tl
161       \tl_put_right:NV \l_siunitx_unit_denominator_tl \l_siunitx_bracket_close_tl
162     }
163   }
164   \tl_set_eq:NN \l_siunitx_unit_tl \l_siunitx_unit_numerator_tl
165   \tl_put_right:NV \l_siunitx_unit_tl \l_siunitx_per_symbol_tl
166   \tl_put_right:NV \l_siunitx_unit_tl \l_siunitx_unit_denominator_tl
167 }

168 \cs_undefine:N \__siunitx_angle_print_astronomy_aux:
169 \cs_new_protected:Npn \__siunitx_angle_print_astronomy_aux: {
170   \prop_get:NnNT \l_siunitx_number_out_prop { mantissa-integer }
171   \l_siunitx_tmpa_tl
172   { \__siunitx_print:nV { number } \l_siunitx_tmpa_tl }
173   \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
174   {%
175     \hbox_set:Nn \l_siunitx_angle_marker_box
176     {
177       \__siunitx_print:nn { number } { \l_siunitx_output_decimal_tl }
178     }
179     \hbox_set:Nn \l_siunitx_angle_unit_box
180     {
181       \__siunitx_print:nV { unit } \l_siunitx_unit_tl
182       \skip_horizontal:n { -\scriptspace }
183     }
184     \__siunitx_angle_print_astronomy_aux:n { marker }
185     \__siunitx_angle_print_astronomy_aux:n { unit }
186     \hbox_set:Nn \l_siunitx_angle_marker_box
187     {
188       \box_use:N \l_siunitx_angle_marker_box
189       \box_use:N \l_siunitx_angle_unit_box
190     }
191     \dim_compare:nNnTF
192     { \l_siunitx_angle_marker_dim } > { \l_siunitx_angle_unit_dim }
193     { \__siunitx_angle_print_astronomy_marker: }
194     { \__siunitx_angle_print_astronomy_unit: }
195   }%
196   {%
197     \__siunitx_print:nV { unit } \l_siunitx_unit_tl
198     \__siunitx_print:nn { number } { \l_siunitx_output_decimal_tl }
199   }%

```

```
200 \prop_get:NnNT \l__siunitx_number_out_prop { mantissa-decimal }
201   \l__siunitx_tmpa_tl
202   { \__siunitx_print:nV { number } \l__siunitx_tmpa_tl }
203 }

204 \cs_undefine:N \__siunitx_textsuperscript:n
205 \cs_new_protected:Npn \__siunitx_textsuperscript:n #1 {\textsuperscript{#1} }

206 \RenewDocumentCommand \num { o m } {
207   \leavevmode
208   \group_begin:% l warp
209     \LetLtxMacro\@ensuredmath\LWR@origensuredmath% l warp
210     \LetLtxMacro\mbox\LWR@print@mbox% l warp
211     \bool_set_false:N \l__siunitx_font_set_bool
212     \IfNoValueF {#1}
213       { \keys_set:nn { siunitx } {#1} }
214     \__siunitx_number_output:n {#2}
215   \group_end:% l warp
216 }
217
218 \RenewDocumentCommand \numrange { o m m } {
219   \leavevmode
220   \group_begin:% l warp
221     \LetLtxMacro\@ensuredmath\LWR@origensuredmath% l warp
222     \LetLtxMacro\mbox\LWR@print@mbox% l warp
223     \bool_set_false:N \l__siunitx_font_set_bool
224     \IfNoValueF {#1}
225       { \keys_set:nn { siunitx } {#1} }
226     \__siunitx_range_numbers:nn {#2} {#3}
227   \group_end:% l warp
228 }
229
230 \RenewDocumentCommand \ang { o > { \SplitArgument { 2 } { ; } } m } {
231   \group_begin:% l warp
232     \LetLtxMacro\@ensuredmath\LWR@origensuredmath% l warp
233     \LetLtxMacro\mbox\LWR@print@mbox% l warp
234     \IfNoValueF {#1}
235       { \keys_set:nn { siunitx } {#1} }
236     \__siunitx_angle_output:nnn #2
237   \group_end:% l warp
238 }
239
240 \RenewDocumentCommand \si { o m } {
241   \leavevmode
242   \group_begin:% l warp
243     \LetLtxMacro\@ensuredmath\LWR@origensuredmath% l warp
244     \LetLtxMacro\mbox\LWR@print@mbox% l warp
245     \bool_set_false:N \l__siunitx_font_set_bool
246     \IfNoValueTF {#1}
247       { \__siunitx_unit_output:nn {#2} { } }
248       {
249         \keys_set:nn { siunitx } {#1}
250         \__siunitx_unit_output:nn {#2} {#1}
251       }
252   \group_end:% l warp
```

```

253 }
254
255
256 \RenewDocumentCommand{\SIrange}{o m m m}
257 {%
258   \leavevmode
259   \group_begin:\% lwarp
260   \LetLtxMacro{\ensuredmath}{\LWR@origensuredmath} \lwarp
261   \LetLtxMacro{\mbox}{\LWR@print@mbox} \lwarp
262   \bool_set_false:N \l_siunitx_font_set_bool
263   \IfNoValueTF {\#1}
264     { \__siunitx_range_unit:nnnn {\#4} { } {\#2} {\#3} }
265     {
266       \keys_set:nn { siunitx } {\#1}
267       \__siunitx_range_unit:nnnn {\#4} {\#1} {\#2} {\#3}
268     }
269   \group_end:\% lwarp
270 }
271
272 \ExplSyntaxOff

```

For **MATHJAX**. (The following runs much faster as separate \CustomizeMathJax calls instead of one single call.)

```

273 \begin{warpMathJax}
274 \LWR@infoprocessingmathjax{siunitx}
275
276 \CustomizeMathJax{\newcommand{\ang}[2][]{\mathrm{#2}}\degree}
277 \CustomizeMathJax{\newcommand{\num}[2][]{\mathrm{#2}}}
278 \CustomizeMathJax{\newcommand{\si}[2][]{\mathrm{#2}}}
279 %
280 % \SI[opt]{num}{preunit}{unit}
281 \CustomizeMathJax{\newcommand{\LWRSI}[2][]{\mathrm{\#1}\LWRSI{number},\#2}}
282 \CustomizeMathJax{\newcommand{\SI}[2][]{\def\LWRSI{number}\#2}\LWRSI}
283 %
284 \CustomizeMathJax{\newcommand{\numlist}[2][]{\mathrm{#2}}}
285 \CustomizeMathJax{\newcommand{\numrange}[3][]{\mathrm{#2}--\#3}}
286 \CustomizeMathJax{\newcommand{\SIList}[3][]{\mathrm{\#2},\#3}}
287 \CustomizeMathJax{\newcommand{\SIrange}[4][]{\mathrm{\#2},\#4--\#3,\#4}}
288 \CustomizeMathJax{\newcommand{\tablenum}[2][]{\mathrm{#2}}}
289 %
290 \CustomizeMathJax{\newcommand{\ampere}{\mathrm{A}}}
291 \CustomizeMathJax{\newcommand{\candela}{\mathrm{cd}}}
292 \CustomizeMathJax{\newcommand{\kelvin}{\mathrm{K}}}
293 \CustomizeMathJax{\newcommand{\kilogram}{\mathrm{kg}}}
294 \CustomizeMathJax{\newcommand{\metre}{\mathrm{m}}}
295 \CustomizeMathJax{\newcommand{\mole}{\mathrm{mol}}}
296 \CustomizeMathJax{\newcommand{\second}{\mathrm{s}}}
297 %
298 \CustomizeMathJax{\newcommand{\becquerel}{\mathrm{Bq}}}
299 \CustomizeMathJax{\newcommand{\degreeCelsius}{\text{\scriptsize{\textcircled{C}}}}}
300 \CustomizeMathJax{\newcommand{\coulomb}{\mathrm{C}}}
301 \CustomizeMathJax{\newcommand{\farad}{\mathrm{F}}}
302 \CustomizeMathJax{\newcommand{\gray}{\mathrm{Gy}}}
303 \CustomizeMathJax{\newcommand{\hertz}{\mathrm{Hz}}}

```

```
304 \CustomizeMathJax{\newcommand{\henry}{\mathrm{H}}}
305 \CustomizeMathJax{\newcommand{\joule}{\mathrm{J}}}
306 \CustomizeMathJax{\newcommand{\katal}{\mathrm{kat}}}
307 \CustomizeMathJax{\newcommand{\lumen}{\mathrm{lm}}}
308 \CustomizeMathJax{\newcommand{\lux}{\mathrm{lx}}}
309 \CustomizeMathJax{\newcommand{\newton}{\mathrm{N}}}
310 \CustomizeMathJax{\newcommand{\ohm}{\mathrm{\Omega}}}
311 \CustomizeMathJax{\newcommand{\pascal}{\mathrm{Pa}}}
312 \CustomizeMathJax{\newcommand{\radian}{\mathrm{rad}}}
313 \CustomizeMathJax{\newcommand{\siemens}{\mathrm{S}}}
314 \CustomizeMathJax{\newcommand{\sievert}{\mathrm{Sv}}}
315 \CustomizeMathJax{\newcommand{\steradian}{\mathrm{sr}}}
316 \CustomizeMathJax{\newcommand{\tesla}{\mathrm{T}}}
317 \CustomizeMathJax{\newcommand{\volt}{\mathrm{V}}}
318 \CustomizeMathJax{\newcommand{\watt}{\mathrm{W}}}
319 \CustomizeMathJax{\newcommand{\weber}{\mathrm{Wb}}}
320 \CustomizeMathJax{\newcommand{\day}{\mathrm{d}}}
321 \CustomizeMathJax{\newcommand{\degree}{\mathrm{^\circ}}}
322 \CustomizeMathJax{\newcommand{\hectare}{\mathrm{ha}}}
323 \CustomizeMathJax{\newcommand{\hour}{\mathrm{h}}}
324 \CustomizeMathJax{\newcommand{\litre}{\mathrm{l}}}
325 \CustomizeMathJax{\newcommand{\liter}{\mathrm{L}}}
326 \CustomizeMathJax{\newcommand{\arcminute}{\mathrm{^\prime}}}
327 \CustomizeMathJax{\newcommand{\minute}{\mathrm{min}}}
328 \CustomizeMathJax{\newcommand{\arcsecond}{\mathrm{^{\prime\prime}}}}
329 \CustomizeMathJax{\newcommand{\tonne}{\mathrm{t}}}
330 \CustomizeMathJax{\newcommand{\astronomicalunit}{\mathrm{au}}}
331 \CustomizeMathJax{\newcommand{\atomicmassunit}{\mathrm{u}}}
332 \CustomizeMathJax{\newcommand{\bohr}{\mathrm{a\_0}}}
333 \CustomizeMathJax{\newcommand{\clight}{\mathrm{c}_0}}
334 \CustomizeMathJax{\newcommand{\dalton}{\mathrm{D}\_\mathrm{a}}}
335 \CustomizeMathJax{\newcommand{\electronmass}{\mathrm{m}\_\mathrm{e}}}
336 \CustomizeMathJax{\newcommand{\electronvolt}{\mathrm{eV}}}
337 \CustomizeMathJax{\newcommand{\elementarycharge}{\mathrm{e}}}
338 \CustomizeMathJax{\newcommand{\hartree}{\mathrm{E}\_\mathrm{h}}}
339 \CustomizeMathJax{\newcommand{\planckbar}{\mathrm{\Lambda}_{\mathrm{0}}}}
340 \CustomizeMathJax{\newcommand{\angstrom}{\mathrm{\AA}}}
341 \CustomizeMathJax{\let\LRorigbar\bar}
342 \CustomizeMathJax{\newcommand{\bar}{\mathrm{bar}}}
343 \CustomizeMathJax{\newcommand{\barn}{\mathrm{b}}}
344 \CustomizeMathJax{\newcommand{\bel}{\mathrm{B}}}
345 \CustomizeMathJax{\newcommand{\decibel}{\mathrm{dB}}}
346 \CustomizeMathJax{\newcommand{\knot}{\mathrm{kn}}}
347 \CustomizeMathJax{\newcommand{\mmHg}{\mathrm{mmHg}}}
348 \CustomizeMathJax{\newcommand{\nauticalmile}{\mathrm{M}}}
349 \CustomizeMathJax{\newcommand{\neper}{\mathrm{Np}}}
350 %
351 \CustomizeMathJax{\newcommand{\yocto}{\mathrm{y}}}
352 \CustomizeMathJax{\newcommand{\zepto}{\mathrm{z}}}
353 \CustomizeMathJax{\newcommand{\atto}{\mathrm{a}}}
354 \CustomizeMathJax{\newcommand{\femto}{\mathrm{f}}}
355 \CustomizeMathJax{\newcommand{\pico}{\mathrm{p}}}
356 \CustomizeMathJax{\newcommand{\nano}{\mathrm{n}}}
357 \CustomizeMathJax{\newcommand{\micro}{\mathrm{\mu}}}
358 \CustomizeMathJax{\newcommand{\milli}{\mathrm{m}}}
```

```
359 \CustomizeMathJax{\newcommand{\centi}{\mathrm{c}}}
360 \CustomizeMathJax{\newcommand{\deci}{\mathrm{d}}}
361 \CustomizeMathJax{\newcommand{\deca}{\mathrm{da}}}
362 \CustomizeMathJax{\newcommand{\hecto}{\mathrm{h}}}
363 \CustomizeMathJax{\newcommand{\kilo}{\mathrm{k}}}
364 \CustomizeMathJax{\newcommand{\mega}{\mathrm{M}}}
365 \CustomizeMathJax{\newcommand{\giga}{\mathrm{G}}}
366 \CustomizeMathJax{\newcommand{\tera}{\mathrm{T}}}
367 \CustomizeMathJax{\newcommand{\peta}{\mathrm{P}}}
368 \CustomizeMathJax{\newcommand{\exa}{\mathrm{E}}}
369 \CustomizeMathJax{\newcommand{\zetta}{\mathrm{Z}}}
370 \CustomizeMathJax{\newcommand{\yotta}{\mathrm{Y}}}
371 %
372 \CustomizeMathJax{\newcommand{\percent}{\mathrm{\%}}}
373 %
374 \CustomizeMathJax{\newcommand{\meter}{\mathrm{m}}}
375 \CustomizeMathJax{\newcommand{\metre}{\mathrm{m}}}
376 %
377 \CustomizeMathJax{\newcommand{\gram}{\mathrm{g}}}
378 \CustomizeMathJax{\newcommand{\kg}{\mathrm{kilo}\mathrm{g}}}
379 \CustomizeMathJax{\newcommand{\of}[1]{_{\mathrm{#1}}}}
380 \CustomizeMathJax{\newcommand{\squared}{^2}}
381 \CustomizeMathJax{\newcommand{\square}{\mathrm{#1}^2}}
382 \CustomizeMathJax{\newcommand{\cubed}{^3}}
383 \CustomizeMathJax{\newcommand{\cubic}{\mathrm{#1}^3}}
384 \CustomizeMathJax{\newcommand{\per}{/}}
385 \CustomizeMathJax{\newcommand{\celsius}{\mathrm{\textnormal{\texttt{u}}}}}
386 %
387 \CustomizeMathJax{\newcommand{\fg}{\mathrm{femto}\mathrm{g}}}
388 \CustomizeMathJax{\newcommand{\pg}{\mathrm{pico}\mathrm{g}}}
389 \CustomizeMathJax{\newcommand{\ng}{\mathrm{nano}\mathrm{g}}}
390 \CustomizeMathJax{\newcommand{\ug}{\mathrm{micro}\mathrm{g}}}
391 \CustomizeMathJax{\newcommand{\mg}{\mathrm{milli}\mathrm{g}}}
392 \CustomizeMathJax{\newcommand{\g}{\mathrm{g}}}
393 \CustomizeMathJax{\newcommand{\kg}{\mathrm{kilo}\mathrm{g}}}
394 %
395 \CustomizeMathJax{\newcommand{\amu}{\mathrm{u}}}
396 %
397 \CustomizeMathJax{\newcommand{\pm}{\mathrm{pico}\mathrm{metre}}}
398 \CustomizeMathJax{\newcommand{\nm}{\mathrm{nano}\mathrm{metre}}}
399 \CustomizeMathJax{\newcommand{\um}{\mathrm{micro}\mathrm{metre}}}
400 \CustomizeMathJax{\newcommand{\mm}{\mathrm{milli}\mathrm{metre}}}
401 \CustomizeMathJax{\newcommand{\cm}{\mathrm{centi}\mathrm{metre}}}
402 \CustomizeMathJax{\newcommand{\dm}{\mathrm{deci}\mathrm{metre}}}
403 \CustomizeMathJax{\newcommand{\m}{\mathrm{metre}}}
404 \CustomizeMathJax{\newcommand{\km}{\mathrm{kilo}\mathrm{metre}}}
405 %
406 \CustomizeMathJax{\newcommand{\as}{\mathrm{atto}\mathrm{second}}}
407 \CustomizeMathJax{\newcommand{\fs}{\mathrm{femto}\mathrm{second}}}
408 \CustomizeMathJax{\newcommand{\ps}{\mathrm{pico}\mathrm{second}}}
409 \CustomizeMathJax{\newcommand{\ns}{\mathrm{nano}\mathrm{second}}}
410 \CustomizeMathJax{\newcommand{\us}{\mathrm{micro}\mathrm{second}}}
411 \CustomizeMathJax{\newcommand{\ms}{\mathrm{milli}\mathrm{second}}}
412 \CustomizeMathJax{\newcommand{\s}{\mathrm{second}}}
413 %
```

```
414 \CustomizeMathJax{\newcommand{\fmol}{\femto\mol}}
415 \CustomizeMathJax{\newcommand{\pmol}{\pico\mol}}
416 \CustomizeMathJax{\newcommand{\nmol}{\nano\mol}}
417 \CustomizeMathJax{\newcommand{\umol}{\micro\mol}}
418 \CustomizeMathJax{\newcommand{\mmol}{\milli\mol}}
419 \CustomizeMathJax{\newcommand{\mol}{\mol}}
420 \CustomizeMathJax{\newcommand{\kmol}{\kilo\mol}}
421 %
422 \CustomizeMathJax{\newcommand{\pA}{\pico\ampere}}
423 \CustomizeMathJax{\newcommand{\nA}{\nano\ampere}}
424 \CustomizeMathJax{\newcommand{\uA}{\micro\ampere}}
425 \CustomizeMathJax{\newcommand{\mA}{\milli\ampere}}
426 \CustomizeMathJax{\newcommand{\A}{\ampere}}
427 \CustomizeMathJax{\newcommand{\kA}{\kilo\ampere}}
428 %
429 \CustomizeMathJax{\newcommand{\ul}{\micro\litre}}
430 \CustomizeMathJax{\newcommand{\ml}{\milli\litre}}
431 \CustomizeMathJax{\newcommand{\l}{\litre}}
432 \CustomizeMathJax{\newcommand{\hl}{\hecto\litre}}
433 \CustomizeMathJax{\newcommand{\uL}{\micro\liter}}
434 \CustomizeMathJax{\newcommand{\mL}{\milli\liter}}
435 \CustomizeMathJax{\newcommand{\L}{\liter}}
436 \CustomizeMathJax{\newcommand{\hL}{\hecto\liter}}
437 %
438 \CustomizeMathJax{\newcommand{\mHz}{\milli\hertz}}
439 \CustomizeMathJax{\newcommand{\Hz}{\hertz}}
440 \CustomizeMathJax{\newcommand{\kHz}{\kilo\hertz}}
441 \CustomizeMathJax{\newcommand{\MHz}{\mega\hertz}}
442 \CustomizeMathJax{\newcommand{\GHz}{\giga\hertz}}
443 \CustomizeMathJax{\newcommand{\THz}{\tera\hertz}}
444 %
445 \CustomizeMathJax{\newcommand{\mN}{\milli\newton}}
446 \CustomizeMathJax{\newcommand{\N}{\newton}}
447 \CustomizeMathJax{\newcommand{\kN}{\kilo\newton}}
448 \CustomizeMathJax{\newcommand{\MN}{\mega\newton}}
449 %
450 \CustomizeMathJax{\newcommand{\Pa}{\pascal}}
451 \CustomizeMathJax{\newcommand{\kPa}{\kilo\pascal}}
452 \CustomizeMathJax{\newcommand{\MPa}{\mega\pascal}}
453 \CustomizeMathJax{\newcommand{\GPa}{\giga\pascal}}
454 %
455 \CustomizeMathJax{\newcommand{\mohm}{\milli\ohm}}
456 \CustomizeMathJax{\newcommand{\kohm}{\kilo\ohm}}
457 \CustomizeMathJax{\newcommand{\Mohm}{\mega\ohm}}
458 %
459 \CustomizeMathJax{\newcommand{\pV}{\pico\volt}}
460 \CustomizeMathJax{\newcommand{\nV}{\nano\volt}}
461 \CustomizeMathJax{\newcommand{\uV}{\micro\volt}}
462 \CustomizeMathJax{\newcommand{\mV}{\milli\volt}}
463 \CustomizeMathJax{\newcommand{\V}{\volt}}
464 \CustomizeMathJax{\newcommand{\kV}{\kilo\volt}}
465 %
466 \CustomizeMathJax{\newcommand{\W}{\watt}}
467 \CustomizeMathJax{\newcommand{\uW}{\micro\watt}}
468 \CustomizeMathJax{\newcommand{\mW}{\milli\watt}}
```

```

469 \CustomizeMathJax{\newcommand{\kW}{\kilo\watt}}
470 \CustomizeMathJax{\newcommand{\MW}{\mega\watt}}
471 \CustomizeMathJax{\newcommand{\GW}{\giga\watt}}
472 %
473 \CustomizeMathJax{\newcommand{\J}{\joule}}
474 \CustomizeMathJax{\newcommand{\uJ}{\micro\joule}}
475 \CustomizeMathJax{\newcommand{\mJ}{\milli\joule}}
476 \CustomizeMathJax{\newcommand{\kJ}{\kilo\joule}}
477 %
478 \CustomizeMathJax{\newcommand{\eV}{\electronvolt}}
479 \CustomizeMathJax{\newcommand{\meV}{\milli\electronvolt}}
480 \CustomizeMathJax{\newcommand{\keV}{\kilo\electronvolt}}
481 \CustomizeMathJax{\newcommand{\MeV}{\mega\electronvolt}}
482 \CustomizeMathJax{\newcommand{\GeV}{\giga\electronvolt}}
483 \CustomizeMathJax{\newcommand{\TeV}{\tera\electronvolt}}
484 %
485 \CustomizeMathJax{\newcommand{\kWh}{\kilo\watt\hour}}
486 %
487 \CustomizeMathJax{\newcommand{\F}{\farad}}
488 \CustomizeMathJax{\newcommand{\fF}{\femto\farad}}
489 \CustomizeMathJax{\newcommand{\pF}{\pico\farad}}
490 %
491 \CustomizeMathJax{\newcommand{\K}{\mathrm{K}}}
492 %
493 \CustomizeMathJax{\newcommand{\dB}{\mathrm{dB}}}
494 %
495 \CustomizeMathJax{\newcommand{\kibi}{\mathrm{Ki}}}
496 \CustomizeMathJax{\newcommand{\mebi}{\mathrm{Mi}}}
497 \CustomizeMathJax{\newcommand{\gibi}{\mathrm{Gi}}}
498 \CustomizeMathJax{\newcommand{\tebi}{\mathrm{Ti}}}
499 \CustomizeMathJax{\newcommand{\pebi}{\mathrm{Pi}}}
500 \CustomizeMathJax{\newcommand{\exbi}{\mathrm{Ei}}}
501 \CustomizeMathJax{\newcommand{\zebi}{\mathrm{Zi}}}
502 \CustomizeMathJax{\newcommand{\yobi}{\mathrm{Yi}}}
503 \end{warpMathJax}

```

File 382 **lwarf-slantsc.sty**

§ 482 Package **slantsc**

(Emulates or patches code by HARALD HARDERS.)

Pkg slantsc slantsc is emulated for HTML, and used as-is for print output.

for HTML output: 1 \LWR@ProvidesPackagePass{slantsc}[2012/01/01]

```

2 \newcommand*{\LWR@HTML@noscshape}{}%
3 \LWR@formatted{noscshape}%
4 %
5 \newcommand*{\LWR@null@noscshape}{}%
6 %
7 \appto{\LWR@nullfonts}{%
8 \LetLtxMacro\noscshape{\LWR@null@noscshape}%

```

```
9 }
```

File 383 **l warp-slashed.sty**

§ 483 Package **slashed**

(Emulates or patches code by DAVID CARLISLE.)

Pkg **slashed** **slashed** works as-s for HTML SVG math. For MATHJAX, emulation is provided.

for HTML output:

```
1 \LWR@ProvidesPackagePass{slashed}[1997/01/16]
```

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\slashed}{[1]{\cancel{#1}}}}
4 \end{warpMathJax}
```

File 384 **l warp-soul.sty**

§ 484 Package **soul**

(Emulates or patches code by MELCHIOR FRANZ.)

Pkg **soul** **soul** is emulated.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{soul}[2003/11/17]
2 \RequirePackage{xcolor}%
3 \convertcolorspec
```

Storage for the colors to use:

```
3 \newcommand*\LWR@soululcolor{}%
4 %
5 \newcommand*\LWR@soulstcolor{}%
6 %
7 % \definecolor{\LWR@soulhlcolordefault}{HTML}{F8E800}
8 % \newcommand*\LWR@soulhlcolor{\LWR@soulhlcolordefault}
9 \newcommand*\LWR@soulhlcolor{}%
```

\so {<text>}

Basic markup with css:

```
10 \newcommand{\so}[1]{%
11 \InlineClass(letter-spacing:.2ex){letterspacing}{#1}%
12 }
```

\caps {<text>}

```
13 \newcommand{\caps}[1]{%
14 \InlineClass%
```

```

15      (font-variant:small-caps;letter-spacing:.1ex)%
16      {capsspacing}{#1}%
17 }

\LWR@soulcolor  {\langle text\rangle} {\langle color\rangle} {\langle class\rangle} {\langle colorstyle\rangle} {\langle FormatWPstyle\rangle}
Add colors if not empty:
18 \newcommand{\LWR@soulcolor}[5]{%
19 \ifcsempty{#2}%
20 {%
21   \InlineClass{#5}{#3}{#1}%
22 }%
23 {%
24   \convertcolorspec{named}{\nameuse{#2}}{HTML}\LWR@tempcolor%
25   \LWR@htmlspanclass[#5;#4:\LWR@origpound\LWR@tempcolor]{#3}{#1}%
26 }%
27 }

28 \newcommand{\ul}[1]{%
29 \LWR@soulcolor{#1}{\LWR@soululcolor}{\uline}{text-decoration-color}%
30   {text-decoration:underline; text-decoration-skip: auto;}%
31 }
32
33 \newcommand{\st}[1]{%
34 \LWR@soulcolor{#1}{\LWR@soulstcolor}{\sout}{text-decoration-color}%
35   {text-decoration:line-through}%
36 }
37
38 \newcommand{\hl}[1]{%
39 \LWR@soulcolor{#1}{\LWR@soulhlcolor}{highlight}{background-color}%
40   {background:\LWR@origpound{}F8E800}%
41 }

```

Nullified:

```

42 \newcommand*{\soulaccent}[1]{}%
43 \newcommand*{\soulregister}[2]{}%
44 \newcommand{\sloppyword}[1]{#1}%
45 \newcommand*{\sodef}[5]{\DeclareRobustCommand*#1[1]{\so{##1}}}%
46 \newcommand*{\resetso}{}%
47 \newcommand*{\capsdef}[5]{}%
48 \newcommand*{\capsreset}{}%
49 \newcommand*{\capssave}[1]{}%
50 \newcommand*{\capsselect}[1]{}%
51 \newcommand*{\setul}[2]{}%
52 \newcommand*{\resetul}{}%
53 \newcommand*{\setuldepth}[1]{}%
54 \newcommand*{\setuloverlap}[1]{}%
55 \newcommand*{\lless}{}%

```

Set colors:

```

56 \newcommand*{\setulcolor}[1]{\renewcommand{\LWR@soululcolor}{#1}}%
57 \newcommand*{\setstcolor}[1]{\renewcommand{\LWR@soulstcolor}{#1}}%

```

```
58 \newcommand*{\sethlcolor}[1]{\renewcommand{\LWR@soulhlcolor}{#1}}
```

Long versions of the user-level macros:

```
59 \let\textso\so
60 \let\textul\ul
61 \let\texthl\hl
62 \let\textcaps\caps
```

File 385 **l warp-soulpos.sty**

§ 485 Package **soulpos**

(Emulates or patches code by JAVIER BEZOS.)

Pkg soulpos soulpos is emulated.

for HTML output:

```
1 \RequirePackage{soul}
2 \RequirePackage{soulutf8}
3 \LWR@ProvidesPackageDrop{soulpos}[2012/02/25]

4 \NewDocumentCommand{\ulposdef}{m o m}{}
5
6 \newdimen\ulwidth
7
8 \newcommand\ifulstarttype[1]{%
9 \expandafter\@secondoftwo%
10 }
11
12 \newcommand\ifulendtype[1]{%
13 \expandafter\@secondoftwo%
14 }
15
16 \newcommand{\ulstarttype}{0}
17 \newcommand{\ulendtype}{0}
18 \newcommand{\ulpostolerance}{0}%

```

File 386 **l warp-soulutf8.sty**

§ 486 Package **soulutf8**

Pkg soulutf8 soulutf8 is emulated.

l warp's HTML output naturally supports UTF-8 encoding.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{soulutf8}[2016/05/16]
2 \RequirePackage{soul}
```

File 387 **l warp-splitidx.sty**

§ 487 Package **splitidx**

(Emulates or patches code by MARKUS KOHM.)

Pkg **splitidx** **splitidx** is patched for use by **l warp**.

If the **latexmk** option is selected for **l warp**, **latexmk** will compile the document but will *not* compile the indexes. **l warpmk printindex** and **l warpmk htmlindex** will still be required.

 \thepage When using **\AtWriteToIndex** or **\AtNextWriteToIndex**, the user must not refer to **\thepage** during HTML output, as the concept of a page number is meaningless. Instead, do

```
\addtocounter{LWR@autoindex}{1}  
\LWR@new@label{\LWRindex-\arabic{LWR@autoindex}}
```

where the **\index**-like action occurs, and then refer to **\arabic{LWR@autoindex}** instead of **\thepage** where the reference should occur.

See section [590.17](#) in the **l warp-patch-memoir** package for the **\@wrspindexhyp** macro as an example.

for HTML output: 1 \LWR@ProvidesPackagePass{splitidx}[2016/02/18]

```
2 \catcode`\_=12%  
3 \xpatchcmd{\newindex}{\jobname-#2.idx}{\jobname-#2_html.idx}{}  
4 {}  
5 {\LWR@patcherror{splitidx}{\newindex}}  
6 \catcode`\_=8%
```

Patched to use **l warp**'s automatic indexing counter instead of **\thepage**:

```
9 \renewcommand*{\@wrsindex}[2][]{%  
10   \ifx\relax#1\relax  
11     \if@splitidx  
12       \@wrsindex[idx]{#2}%  
13     \else  
14       \def\@tempa{#2}%  
15       \if@verbindex\onelevel@sanitize\@tempa\fi  
16       \@wrindex{\@tempa}%  
17     \fi  
18   \else  
19     \def\@tempa{#2}%  
20     \csname index@\#1@hook\endcsname  
21 %     \expandafter\ifx\csname @@wrsindex\endcsname\relax
```

```

22 \addtocounter{LWR@autoindex}{1}% lwarp
23 \LWR@new@label{LWRindex-\arabic{LWR@autoindex}}% lwarp
24 %     \@@@wrsindex{#1}{{\@tempa}{\thepage}}%
25     \@@@wrsindex{#1}{{\@tempa}{\arabic{LWR@autoindex}}}%
26 % \else
27 %     \def@\tempb{\@@@wrsindex{#1}}%
28 %     \expandafter\@tempb\@tempa|\\%
29 % \fi
30 \endgroup
31 \esphack
32 \fi
33 }

```

`lwarp` defines sectioning commands with `xparse`, so the below patches are done as temporary redefinitions instead of being `\let`.

```

34 \xpatchcmd{\printsubindex}
35   {\let\section\subsection}
36   {\renewcommand*{\section}{\subsection}}
37   {}
38   {\LWR@patcherror{splitidx}{printsubindex-section}}
39
40 \xpatchcmd{\printsubindex}
41   {\let\chapter\section}
42   {\renewcommand*{\chapter}{\section}}
43   {}
44   {\LWR@patcherror{splitidx}{printsubindex-chapter}}
45
46 \xpatchcmd{\printsubindex}
47   {\let\@makechapterhead\section}
48   {\def\@makechapterhead{\section}}
49   {}
50   {\LWR@patcherror{splitidx}{printsubindex-chapter}}

```

File 388 `lwarp-srcltx.sty`

§ 488 Package **srcltx**

Pkg `srcltx` `srcltx` is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{srcltx}[2006/11/12]

```

2 \newif\ifSRCOK \SRCOKfalse
3 \newcommand*\srcIncludeHook[1]{}
4 \newcommand*\srcInputHook[1]{}
5 \newcommand*\MainFile{}
6 \def\MainFile{\jobname.tex}
7 \newcommand*\CurrentInput{}
8 \gdef\CurrentInput{\MainFile}
9 \newcommand\Input{}
10 \let\Input\input

```

File 389 **l warp-srctex.sty**

§ 489 Package **srctex**

Pkg srctex srctex is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{srctex}[2006/11/12]
2 \LWR@origRequirePackage{l warp-srcltx}

File 390 **l warp-stabular.sty**

§ 490 Package **stabular**

(Emulates or patches code by SIGITAS TOLUŠIS.)

Pkg stabular stabular is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{stabular}[2014/03/20]

```
Env stabular [<vpos>] {<colspec>}

  2 \newenvironment{stabular}[2][c]
  3 {
  4 \begin{tabular}[#1]{#2}
  5 \renewcommand{\noalign}{1}{}
  6 }
  7 {\end{tabular}

Env stabular {<width>} [<vpos>] {<colspec>}

  8 \NewDocumentEnvironment{stabular*}{m o m}
  9 {
 10 \begin{tabular}[#2]{#3}
 11 \renewcommand{\noalign}{1}{}
 12 }
 13 {\end{tabular}}
```

File 391 **l warp-stackengine.sty**

§ 491 Package **stackengine**

(Emulates or patches code by STEVEN B. SEGETES.)

Pkg stackengine stackengine is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{stackengine}[2017/02/13]

The original version is necessary for the patched `\@stack` and `\stackanchor`, where nesting `lateximage`s does not work:

```

2 \LetLtxMacro{\LWR@orig@stackengine}{\stackengine}

3 \renewcommand*{\stackengine}[8]{%
4     \ifstreq{\#4}{0}{%
5         {\begin{ lateximage }[\ImageAltText] }%
6         {\begin{ lateximage }[\ImageAltText][]{vertical-align:top} }%
7         \LWR@orig@stackengine{\#1}{\#2}{\#3}{\#4}{\#5}{\#6}{\#7}{\#8}%
8     \end{ lateximage }%
9 }

```

`\@stack` uses a `lateximage` with a vertical alignment:

```

10 \LetLtxMacro{\LWR@orig@@stack}{\stack}
11
12 \xpatchcmd{\LWR@orig@@stack}{\stackengine}{\LWR@orig@stackengine}
13     {}
14     {\LWR@patcherror{stackengine}{\LWR@orig@@stack}}
15
16 \renewcommand*{\@stack}[4]{%
17     \ifstreq{\#3}{0}{%
18         {\begin{ lateximage }[\ImageAltText] }%
19         {\begin{ lateximage }[\ImageAltText][]{vertical-align:top} }%
20         \LWR@orig@@stack{\#1}{\#2}{\#3}{\#4}%
21     \end{ lateximage }%
22 }

```

The lapping macros are disabled for HTML:

```

23 \newcommand*{\LWR@HTML@stacklap}[4]{\#3}
24 \LWR@formatted{\stacklap}

```

`\stackanchor` is patched for two instances of `\stackengine`. A `lateximage` with vertical alignment is used.

```

25 \xpatchcmd{\stackanchor}{\stackengine}{\LWR@orig@stackengine}
26     {}
27     {\LWR@patcherror{stackengine}{stackanchor patch 1}}
28
29 \xpatchcmd{\stackanchor}{\stackengine}{\LWR@orig@stackengine}
30     {}
31     {\LWR@patcherror{stackengine}{stackanchor patch 2}}
32
33 \xpretocmd{\stackanchor}
34     {\begin{ lateximage }[\ImageAltText][]{vertical-align:middle} }%
35     {}
36     {\LWR@patcherror{stackengine}{stackanchor pre}}
37
38 \xapptocmd{\stackanchor}{\end{ lateximage } }
39     {}
40     {\LWR@patcherror{stackengine}{stackanchor app}}

```

\Centerstack is simply placed inside a `lateximage` with a vertical alignment:

```

41 \xpretocmd{\Centerstack}
42   {\begin{ lateximage }[\ImageAltText]{}[vertical-align:middle]}
43   {}
44   {\LWR@patcherror{stackengine}{Centerstack pre}}
45
46 \xapptocmd{\Centerstack}{\end{ lateximage }}
47   {}
48   {\LWR@patcherror{stackengine}{Centerstack app}}

```

\savestack reverts to print mode while saving the box, then places it inside a `lateximage` when used:

```

49 \renewcommand*\savestack[2]{%
50   \xdef\sv@name{\stack@macro@name{\#1}}%
51   \@ifundefined{\sv@name content}{%
52     \expandafter\newsavebox\expandafter{\csname\sv@name content\endcsname}%
53   }{%
54     \begingroup%    lwarp
55     \LWR@restoreorigformatting%    lwarp
56     \RenewDocumentEnvironment{ lateximage }{s o s o o}{}{}% lwarp: inside group
57     \expandafter\lWRegsavebox\csname\sv@name content\endcsname{\#2}%
58     \expandafter\gdef\expandafter#1\expandafter{%
59       \expandafter\begin\expandafter{ lateximage \expandafter}%
60       \expandafter\usebox\expandafter{%
61         \csname\sv@name content\endcsname}%
62       \expandafter\end\expandafter{ lateximage \expandafter}%
63     }%
64     \endgroup%    lwarp
65 }

```

File 392 **lwarp-stackrel.sty**

§ 492 Package **stackrel**

(Emulates or patches code by HEIKO OBERDIEK.)

Pkg **stackrel** **stackrel** is used as-is for SVG math, and is emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{stackrel}[2016/05/16]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\renewcommand{\stackrel}[3][]{%
4   \mathrel{\mathop{\#3}\limits_{\#1}^{\#2}}%
5 }%
6
7 \CustomizeMathJax{\newcommand{\stackbin}[3][]{%
8   \mathbin{\mathop{\#3}\limits_{\#1}^{\#2}}%
9 }%
10 \end{warpMathJax}

```

File 393 l warp-statex2.sty**§ 493 Package statex2***(Emulates or patches code by RODNEY A SPARAPANI.)***Pkg statex2** statex2 is patched for use by l warp, and emulated for MATHJAX.

- ⚠ As of this version, option `autobold` does not appear to work for PDF output.
- ⚠ For MATHJAX, the tilde character `~` does not create `\sim`. Use `\sim` directly.
- ⚠ Because MATHJAX has limited conditional processing:

- `\wrap` only creates square braces, no matter what its optional arguments.
- `\P`, `\pCau`, `\pN`, and `\pU` do not handle special cases.

- ⚠ `\and` To have `\and` work if using `\maketitle`, place the following after the start of the document:

```
\newcommand*{\and}{%
    \relax\ifmmode%
        \expandafter\;\mb{\mathrm{and}}\;%
    \else%
        \expandafter\STATEXand%
    \fi%
}
```

for HTML output: 1 \LWR@ProvidesPackagePass{statex2}[2011/09/14]

```
2 \newcommand*{\LWR@HTML@Alpha}[1][]{%
3     \fcolorbox{black}{ForestGreen}{\textcolor{white}{\textsf{ALPHA}}}%
4     \textbf{\textcolor{ForestGreen}{\textsf{#1}}}}%
5 }
6 \LWR@formatted{Alpha}
7
8 \newcommand*{\LWR@HTML@List}[1]{%
9     \textbf{\textcolor{Dandelion}{\textsf{L}}}\textsubscript{\textit{#1}}}}%
10 }
11 \LWR@formatted{List}
12
13 \newcommand*{\LWR@HTML@Snd}[1][]{%
14     \fcolorbox{black}{Dandelion}{\textcolor{white}{\textsf{2nd}}}}%
15     \textbf{\textcolor{Dandelion}{\textsf{#1}}}}%
16 }
17 \LWR@formatted{Snd}
18
19 \begin{warpMathJax}
```

```

20 \LWR@infoprocessingmathjax{statex2}
21
22 \CustomizeMathJax{\newcommand{\cpi}{\boldsymbol{\pi}}}
23 \CustomizeMathJax{\newcommand{\c}[1]{\boldsymbol{\mathrm{#1}}}}
24 \CustomizeMathJax{\newcommand{\sfsl}[1]{\mathsf{#1}}}%      not slanted
25
26 \if@manualbold
27 \CustomizeMathJax{\newcommand{\mb}[1]{\#1}}
28 \else
29 \CustomizeMathJax{\newcommand{\mb}[1]{\boldsymbol{\#1}}}
30 \fi
31
32 \CustomizeMathJax{\newcommand{\diag}{\mathbf{\mathrm{diag}}}}
33 \CustomizeMathJax{\newcommand{\blockdiag}{\mathbf{\mathrm{blockdiag}}}}
34 \CustomizeMathJax{\newcommand{\erf}{\mathbf{\mathrm{erf}}}}
35 \CustomizeMathJax{\newcommand{\logit}{\mathbf{\mathrm{logit}}}}
36 \CustomizeMathJax{\newcommand{\trace}{\mathbf{\mathrm{trace}}}}
37
38 \CustomizeMathJax{\newcommand{\chisq}{\mathbf{\mathrm{\chi^2}}}}
39 \CustomizeMathJax{\newcommand{\deriv}[2]{\mathbf{\mathrm{\frac{d\{#1\}}{d\{#2\}}}}}\wrap{\mathbf{\mathrm{\#2}}}}
40 \CustomizeMathJax{\newcommand{\derivf}[2]{\mathbf{\mathrm{\frac{d\{#1\}}{d\{#2\}}}}}\wrap{\mathbf{\mathrm{\#1}}}}
41 \CustomizeMathJax{\newcommand{\e}[1]{\mathbf{\mathrm{\mathbf{e}^{#1}}}}}
42 \CustomizeMathJax{\newcommand{\E}[2]{\mathbf{\mathrm{\mathbf{e}^{#1}}_{\#2}}}\wrap{\mathbf{\mathrm{\#2}}}}
43 \CustomizeMathJax{\newcommand{\ha}{\mathbf{\mathrm{\frac{\alpha}{2}}}}}
44 \CustomizeMathJax{\newcommand{\I}[2]{\mathbf{\mathrm{\frac{\partial}{\partial #1}}}}\wrap{\mathbf{\mathrm{\#2}}}}
45     \mathbf{\mathrm{\frac{\partial}{\partial #1}}}_{\mathbf{\mathrm{\#1}}}\LWRwapparen{\mathbf{\mathrm{\#2}}}}%
46 }
47 \CustomizeMathJax{\newcommand{\IBeta}[2]{%
48     \mathbf{\mathrm{\frac{\Gamma\{#1+\#2\}}{\Gamma\{#1\}\Gamma\{#2\}}}}%
49 }}
50 \CustomizeMathJax{\newcommand{\If}{\mathbf{\mathrm{if}}}}
51 \CustomizeMathJax{\newcommand{\im}{\mathbf{\mathrm{i}}}}
52 \CustomizeMathJax{\newcommand{\ol}{\mathbf{\mathrm{\overline{#1}}}}}
53 \CustomizeMathJax{\newcommand{\ow}{\mathbf{\mathrm{otherwise}}}}
54 \CustomizeMathJax{\newcommand{\pderiv}[2]{%
55     \mathbf{\mathrm{\frac{\partial}{\partial #1}}}}\wrap{\mathbf{\mathrm{\#2}}}}
56 }
57 \CustomizeMathJax{\newcommand{\pderivf}[2]{%
58     \mathbf{\mathrm{\frac{\partial}{\partial #1}}}}\wrap{\mathbf{\mathrm{\#2}}}}%
59 }
60 \CustomizeMathJax{\newcommand{\sd}{\mathbf{\mathrm{\sigma}}}}
61 \CustomizeMathJax{\newcommand{\ul}{\mathbf{\mathrm{\underline{#1}}}}}
62 \CustomizeMathJax{\newcommand{\V}[2]{\mathbf{\mathrm{\mathbf{V}\{#1\}\{#2\}}}}\wrap{\mathbf{\mathrm{\#2}}}}
63 \CustomizeMathJax{\newcommand{\vs}{\mathbf{\mathrm{\mathbf{v}\{#1\}\{#2\}}}}\wrap{\mathbf{\mathrm{\#2}}}}
64 \CustomizeMathJax{\newcommand{\where}{\mathbf{\mathrm{where}}}}
65 \CustomizeMathJax{\newcommand{\wrap}[2]{\mathbf{\mathrm{\left[ #1 \right]}}}}%      only []
66 \CustomizeMathJax{\newcommand{\LWRwapparen}[1]{\mathbf{\mathrm{\left( #1 \right)}}}}%      lwarp
67
68 % \CustomizeMathJax{\renewcommand{\sim}{\mathbf{\mathrm{\sim}}}}% doesn't work,
69 % replace <space>~<space> with <space>\sim<space>
70
71 \CustomizeMathJax{\newcommand{\iid}{\mathbf{\mathrm{\mathbf{id}}}}\stackrel{\mathbf{\mathrm{\mathbf{mathrm{id}}}}}{\mathbf{\mathrm{\sim}}};}
72 \CustomizeMathJax{\newcommand{\ind}{\mathbf{\mathrm{\mathbf{ind}}}}\stackrel{\mathbf{\mathrm{\mathbf{ind}}}}{\mathbf{\mathrm{\sim}}};}
73 \CustomizeMathJax{\newcommand{\indpr}{\mathbf{\mathrm{\mathbf{indpr}}}}}
74     ;\stackrel{\mathbf{\mathrm{\mathbf{ind}}}}{\mathbf{\mathrm{\stackrel{\mathbf{\mathrm{\mathbf{prior}}}}{\mathbf{\mathrm{\sim}}}}}};%
```

```

75 }}
76 \CustomizeMathJax{\newcommand{\post}{\; \stackrel{\mathbf{m}{\mathrm{post}}}{\sim} ;}}
77 \CustomizeMathJax{\newcommand{\prior}{\; \stackrel{\mathbf{m}{\mathrm{prior}}}{\sim} ;}}
78
79 \CustomizeMathJax{\let\STATEXGamma=\Gamma}
80 \CustomizeMathJax{\renewcommand{\Gamma}[1][]{{\mathbf{m}{\mathrm{\STATEXGamma}}}\LWRwapparen{\mathbf{m}{\#1}}}}
81 %
82 \CustomizeMathJax{\renewcommand{\and}{\; \mathbf{m}{\mathrm{and}} \;}}
83 %
84 \CustomizeMathJax{\newcommand{\H}{\mathbf{m}{\mathrm{H}}}}
85 %
86 \CustomizeMathJax{\newcommand{\P}[2][]{\mathbf{m}{\mathrm{P}}}_{\mathbf{m}{\#1}}\wrap{\mathbf{m}{\#2}}}}
87 %
88 \CustomizeMathJax{\newcommand{\mid}{\mathbf{m}{\mathrm{mid}}}}
89
90 \CustomizeMathJax{\newcommand{\B}[1]{\mathbf{m}{\mathrm{B}}}\LWRwapparen{\mathbf{m}{\#1}}}}
91 \CustomizeMathJax{\newcommand{\BB}[1]{\mathbf{m}{\mathrm{BetaBin}}}\LWRwapparen{\mathbf{m}{\#1}}}}
92 \CustomizeMathJax{\newcommand{\Bin}[2]{\mathbf{m}{\mathrm{Bin}}}\LWRwapparen{\mathbf{m}{\#1}, \#2}}}
93 \CustomizeMathJax{\newcommand{\Dir}[1]{\mathbf{m}{\mathrm{Dirichlet}}}\LWRwapparen{\mathbf{m}{\#1}}}}
94 \CustomizeMathJax{\newcommand{\HG}[3]{%
95     \mathbf{m}{\mathrm{Hypergeometric}}}\LWRwapparen{\mathbf{m}{\#1}, \#2, \#3}}%
96 }
97 \CustomizeMathJax{\newcommand{\M}[2]{%
98     \mathbf{m}{\mathrm{Multinomial}}}\LWRwapparen{\mathbf{m}{\#1}, \#2}}%
99 }
100 \CustomizeMathJax{\newcommand{\NB}[2]{\mathbf{m}{\mathrm{NegBin}}}\LWRwapparen{\mathbf{m}{\#1}, \#2}}}
101 \CustomizeMathJax{\newcommand{\Poi}[1]{\mathbf{m}{\mathrm{Poisson}}}\LWRwapparen{\mathbf{m}{\#1}}}}
102 \CustomizeMathJax{\let\Poisson=\Poi}
103
104 \CustomizeMathJax{\newcommand{\pBB}[4][x]{%
105     \mathbf{m}{\frac{\Gamma[\#2+1]\Gamma[\#3+\#1]\Gamma[\#2+\#4-\#1]\Gamma[\#3+\#4]}{\{\Gamma[\#1+\#1]\Gamma[\#2-\#1+1]\Gamma[\#2+\#3+\#4]\Gamma[\#3]\Gamma[\#4]\}}}}%
106     \mathbf{I}[\#1]\{\{0, 1, \_, \#2\}, \text{where } \#3>0, \#4>0 \text{ and n}=1, 2, \_.}}%
107     \#3>0, \#4>0 \text{ and n}=1, 2, \_.}}%
108 }
109 \CustomizeMathJax{\newcommand{\pBin}[3][x]{%
110     \mathbf{m}{\binom{\#2}{\#1}\#3^{\#1}}}\LWRwapparen{\mathbf{m}{\{1-\#3\}^{\{2-\#1\}}}}}}%
111     \mathbf{m}{\mathbf{I}[\#1]\{\{0, 1, \_, \#2\}, \text{where p in (0, 1) and n}=1, 2, \_.}}}}%
112 }
113 \CustomizeMathJax{\newcommand{\pPoi}[2][x]{%
114     \mathbf{m}{\frac{1}{2^{\#1}}\#2^{\#1}\mathbf{e}^{-\#2}\mathbf{I}[\#1]\{\{0, 1, \_, \#2\}, \text{where } \#2>0}}}}%
115 }
116
117 \CustomizeMathJax{\newcommand{\Cau}[2]{\mathbf{m}{\mathrm{Cauchy}}}\LWRwapparen{\mathbf{m}{\#1}, \#2}}}
118 \CustomizeMathJax{\let\Cauchy=\Cau}
119 \CustomizeMathJax{\newcommand{\Chi}[2][]{%
120     \mathbf{chisq}_{\mathbf{m}{\#1}}}\LWRwapparen{\mathbf{m}{\#2}}}}%
121 }
122 \CustomizeMathJax{\let\Chisq=\Chi}
123 \CustomizeMathJax{\newcommand{\Bet}[2]{\mathbf{m}{\mathrm{Beta}}}\LWRwapparen{\mathbf{m}{\#1}, \#2}}}
124 \CustomizeMathJax{\let\Beta=\Bet}
125 \CustomizeMathJax{\newcommand{\Exp}[1]{\mathbf{m}{\mathrm{Exp}}}\LWRwapparen{\mathbf{m}{\#1}}}}
126 \CustomizeMathJax{\newcommand{\F}[2]{\mathbf{m}{\mathrm{F}}}\LWRwapparen{\mathbf{m}{\#1}, \#2}}}
127 \CustomizeMathJax{\newcommand{\Gam}[2]{\mathbf{m}{\mathrm{Gamma}}}\LWRwapparen{\mathbf{m}{\#1}, \#2}}}
128 \CustomizeMathJax{\newcommand{\IC}[1]{\mathbf{m}{\mathrm{\chi^{-2}}}}\LWRwapparen{\mathbf{m}{\#1}}}}
129 \CustomizeMathJax{\newcommand{\IG}[2]{%

```

```

130      \mb{\mathrm{Gamma}^{-1}}\LWRwapparen{\mb{#1,\ #2}}%
131  }
132 \CustomizeMathJax{\newcommand{\IW}[2]{%
133   \mb{\mathrm{Wishart}^{-1}}\LWRwapparen{\mb{#1,\ #2}}%
134 }}
135 \CustomizeMathJax{\newcommand{\Log}[2]{%
136 \mb{\mathrm{Log}}!\-\!N}\LWRwapparen{\mb{#1,\ #2}}%
137 }}
138 \CustomizeMathJax{\newcommand{\LogN}[2]{%
139   \mb{\mathrm{Log}}!\-\!N}\LWRwapparen{\mb{#1,\ #2}}%
140 }}
141 \CustomizeMathJax{\newcommand{\N}[3][]{%
142   \mb{\mathrm{N}}_-\{\mb{#1}}\LWRwapparen{\mb{#2,\ #3}}%
143 }}
144 \CustomizeMathJax{\newcommand{\Par}[2]{\mb{\mathrm{Pareto}}}\LWRwapparen{\mb{#1,\ #2}}}}
145 \CustomizeMathJax{\let\Pareto=\Par}
146 \CustomizeMathJax{\newcommand{\Tsq}[2]{\mb{\mathrm{T}^2}}\LWRwapparen{\mb{#1,\ #2}}}}
147 \CustomizeMathJax{\newcommand{\U}[1]{\mb{\mathrm{U}}}\LWRwapparen{\mb{#1}}}}
148 \CustomizeMathJax{\newcommand{\W}[2]{\mb{\mathrm{Wishart}}}\LWRwapparen{\mb{#1,\ #2}}}}
149
150 \CustomizeMathJax{\renewcommand{\t}[1]{\mb{\mathrm{t}}}\LWRwapparen{\mb{#1}}}}
151
152 \CustomizeMathJax{\newcommand{\pBet}[3][x]{%
153   \IBeta{#2}{#3}%
154   #1^{#2-1}\LWRwapparen{1-#1}^{#3-1}\I[#1]{0,\ 1}, \where #2>0 \and #3>0%
155 }}
156 \CustomizeMathJax{\newcommand{\pCau}[3][x]{%
157 %   \ifthenelse{\equal{#2,\ #3}{0,\ 1}}{\frac{1}{\cpi}\LWRwapparen{1+#1}^2}%
158   {\frac{1}{#3\cpi}\left\{1+\wrap{\LWRwapparen{x-#2}/#3}^2\right\}}, \where #3>0%%
159 }}% no special case for 0,1
160 \CustomizeMathJax{\newcommand{\pChi}[2][x]{%
161   \frac{2^{#2/2}}{\Gamma[#2/2]}#1^{#2-1}\e{-#1/2}%
162   \I[#1]{0,\infty}, \where #2>0%
163 }}
164 \CustomizeMathJax{\newcommand{\pExp}[2][x]{%
165   \frac{1}{#2}\e{-#1/#2}\I[#1]{0,\infty},%
166   \where #2>0%
167 }}
168 \CustomizeMathJax{\newcommand{\pGam}[3][x]{%
169   \frac{#3^{#2}}{\Gamma[#2]}#1^{#2-1}\e{-#3#1}%
170   \I[#1]{0,\infty}, \where #2>0 \and #3>0%
171 }}
172 \CustomizeMathJax{\newcommand{\pN}[3][x]{%
173 %   \ifthenelse{\equal{#2,\ #3}{0,\ 1}}{%
174 %     \frac{1}{\sqrt{2\cpi}}\e{-#1^2/2}%
175 %     {\frac{1}{\sqrt{2\cpi}}\sqrt{\#3}}\e{-\LWRwapparen{\#1-\#2}^2/2\cdot\#3}}%
176 }}% no test for 0,1, must add \cdot
177 \CustomizeMathJax{\newcommand{\pPar}[3][x]{%
178   \frac{#3}{#2}\LWRwapparen{1+\#1/#2}^{#3+1}\I[#1]{0,\infty},%
179   \where #2>0 \and #3>0%
180 }}
181 \CustomizeMathJax{\newcommand{\pU}[3][x]{%
182 %   \ifthenelse{\equal{#2,\ #3}{0,\ 1}}{\I[#1]{0,\ 1}}{%
183 %     \frac{#3-\#2}{\#2}\I[#1]{\#2,\ #3}, \where #2<\#3}}%
184 }}% no special case for 0,1

```

```
185  
186 \CustomizeMathJax{\newcommand{\=}{\bar{#1}}}  
187 \CustomizeMathJax{\let\widehat{\let\widetilde{}}  
188 \CustomizeMathJax{\newcommand{\'}{\LWRwrapparen{\bar{#1}}}}}  
189 \CustomizeMathJax{\newcommand{\b}{\bar{#1}}}  
190 \CustomizeMathJax{\newcommand{\c}{\bar{\mathrm{#1}}}}}  
191 \CustomizeMathJax{\newcommand{\d}{\bar{\mathrm{#1}}}}}  
192 \CustomizeMathJax{\newcommand{\ldots}{\ldots}}}  
193 \CustomizeMathJax{\newcommand{\ldots}{\ldots}}}  
194 \end{warpMathJax}
```

File 394 l warp-statmath.sty**§ 494 Package statmath**

(Emulates or patches code by SEBASTIAN ANKARGREN.)

Pkg statmath statmath is used as-is for SVG math, and is emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{statmath}[2018/03/08]

```
2 \begin{warpMathJax}  
3 \LWR@infoprocessingmathjax{statmath}  
4  
5 \CustomizeMathJax{\let\abcbf{\mathbf{}}}  
6 \CustomizeMathJax{\newcommand{\greekbf}{\boldsymbol{}}}  
7 \CustomizeMathJax{\newcommand{\bfA}{\mathbf{A}}}  
8 \CustomizeMathJax{\newcommand{\bfB}{\mathbf{B}}}  
9 \CustomizeMathJax{\newcommand{\bfC}{\mathbf{C}}}  
10 \CustomizeMathJax{\newcommand{\bfD}{\mathbf{D}}}  
11 \CustomizeMathJax{\newcommand{\bfE}{\mathbf{E}}}  
12 \CustomizeMathJax{\newcommand{\bfF}{\mathbf{F}}}  
13 \CustomizeMathJax{\newcommand{\bfG}{\mathbf{G}}}  
14 \CustomizeMathJax{\newcommand{\bfH}{\mathbf{H}}}  
15 \CustomizeMathJax{\newcommand{\bfI}{\mathbf{I}}}  
16 \CustomizeMathJax{\newcommand{\bfJ}{\mathbf{J}}}  
17 \CustomizeMathJax{\newcommand{\bfK}{\mathbf{K}}}  
18 \CustomizeMathJax{\newcommand{\bfL}{\mathbf{L}}}  
19 \CustomizeMathJax{\newcommand{\bfM}{\mathbf{M}}}  
20 \CustomizeMathJax{\newcommand{\bfN}{\mathbf{N}}}  
21 \CustomizeMathJax{\newcommand{\bfO}{\mathbf{O}}}  
22 \CustomizeMathJax{\newcommand{\bfP}{\mathbf{P}}}  
23 \CustomizeMathJax{\newcommand{\bfQ}{\mathbf{Q}}}  
24 \CustomizeMathJax{\newcommand{\bfR}{\mathbf{R}}}  
25 \CustomizeMathJax{\newcommand{\bfS}{\mathbf{S}}}  
26 \CustomizeMathJax{\newcommand{\bfT}{\mathbf{T}}}  
27 \CustomizeMathJax{\newcommand{\bfU}{\mathbf{U}}}  
28 \CustomizeMathJax{\newcommand{\bfV}{\mathbf{V}}}  
29 \CustomizeMathJax{\newcommand{\bfW}{\mathbf{W}}}  
30 \CustomizeMathJax{\newcommand{\bfX}{\mathbf{X}}}  
31 \CustomizeMathJax{\newcommand{\bfY}{\mathbf{Y}}}  
32 \CustomizeMathJax{\newcommand{\bfZ}{\mathbf{Z}}}  
33 \CustomizeMathJax{\newcommand{\bfa}{\mathbf{a}}}
```

```
34 \CustomizeMathJax{\newcommand{\bfb}{\abcbf b}}
35 \CustomizeMathJax{\newcommand{\bfc}{\abcbf c}}
36 \CustomizeMathJax{\newcommand{\bfd}{\abcbf d}}
37 \CustomizeMathJax{\newcommand{\bfe}{\abcbf e}}
38 \CustomizeMathJax{\newcommand{\bff}{\abcbf f}}
39 \CustomizeMathJax{\newcommand{\bfg}{\abcbf g}}
40 \CustomizeMathJax{\newcommand{\bfh}{\abcbf h}}
41 \CustomizeMathJax{\newcommand{\bfi}{\abcbf i}}
42 \CustomizeMathJax{\newcommand{\bfj}{\abcbf j}}
43 \CustomizeMathJax{\newcommand{\bfk}{\abcbf k}}
44 \CustomizeMathJax{\newcommand{\bfl}{\abcbf l}}
45 \CustomizeMathJax{\newcommand{\bfm}{\abcbf m}}
46 \CustomizeMathJax{\newcommand{\bfn}{\abcbf n}}
47 \CustomizeMathJax{\newcommand{\bfo}{\abcbf o}}
48 \CustomizeMathJax{\newcommand{\bfp}{\abcbf p}}
49 \CustomizeMathJax{\newcommand{\bfq}{\abcbf q}}
50 \CustomizeMathJax{\newcommand{\bfr}{\abcbf r}}
51 \CustomizeMathJax{\newcommand{\ bfs}{\abcbf s}}
52 \CustomizeMathJax{\newcommand{\bft}{\abcbf t}}
53 \CustomizeMathJax{\newcommand{\bfu}{\abcbf u}}
54 \CustomizeMathJax{\newcommand{\bfv}{\abcbf v}}
55 \CustomizeMathJax{\newcommand{\bfw}{\abcbf w}}
56 \CustomizeMathJax{\newcommand{\bfx}{\abcbf x}}
57 \CustomizeMathJax{\newcommand{\bfy}{\abcbf y}}
58 \CustomizeMathJax{\newcommand{\bfz}{\abcbf z}}
59 \CustomizeMathJax{\newcommand{\bfalpha}{\greekbf \alpha}}
60 \CustomizeMathJax{\newcommand{\bfbeta}{\greekbf \beta}}
61 \CustomizeMathJax{\newcommand{\bfdelta}{\greekbf \delta}}
62 \CustomizeMathJax{\newcommand{\bfepsilon}{\greekbf \epsilon}}
63 \CustomizeMathJax{\newcommand{\bfvarepsilon}{\greekbf \varepsilon}}
64 \CustomizeMathJax{\newcommand{\bfzeta}{\greekbf \zeta}}
65 \CustomizeMathJax{\newcommand{\bfeta}{\greekbf \eta}}
66 \CustomizeMathJax{\newcommand{\bftheta}{\greekbf \theta}}
67 \CustomizeMathJax{\newcommand{\bfvartheta}{\greekbf \vartheta}}
68 \CustomizeMathJax{\newcommand{\bfgamma}{\greekbf \gamma}}
69 \CustomizeMathJax{\newcommand{\bfkappa}{\greekbf \kappa}}
70 \CustomizeMathJax{\newcommand{\bflambda}{\greekbf \lambda}}
71 \CustomizeMathJax{\newcommand{\bfmu}{\greekbf \mu}}
72 \CustomizeMathJax{\newcommand{\bfnu}{\greekbf \nu}}
73 \CustomizeMathJax{\newcommand{\bfxi}{\greekbf \xi}}
74 \CustomizeMathJax{\newcommand{\bfpi}{\greekbf \pi}}
75 \CustomizeMathJax{\newcommand{\bfvarpi}{\greekbf \varpi}}
76 \CustomizeMathJax{\newcommand{\bfrho}{\greekbf \rho}}
77 \CustomizeMathJax{\newcommand{\bfvarrho}{\greekbf \varrho}}
78 \CustomizeMathJax{\newcommand{\bfsigma}{\greekbf \sigma}}
79 \CustomizeMathJax{\newcommand{\bfvarsigma}{\greekbf \varsigma}}
80 \CustomizeMathJax{\newcommand{\bftau}{\greekbf \tau}}
81 \CustomizeMathJax{\newcommand{\bfupsilon}{\greekbf \upsilon}}
82 \CustomizeMathJax{\newcommand{\bfphi}{\greekbf \phi}}
83 \CustomizeMathJax{\newcommand{\bfvarphi}{\greekbf \varphi}}
84 \CustomizeMathJax{\newcommand{\bfchi}{\greekbf \chi}}
85 \CustomizeMathJax{\newcommand{\bfpsi}{\greekbf \psi}}
86 \CustomizeMathJax{\newcommand{\bfomega}{\greekbf \omega}}
87 \CustomizeMathJax{\newcommand{\bfiot}{\greekbf \iota}}
88 \CustomizeMathJax{\newcommand{\bfGamma}{\greekbf \Gamma}}
```

```

89 \CustomizeMathJax{\newcommand{\bfDelta}{\greekbf \Delta}}
90 \CustomizeMathJax{\newcommand{\bfTheta}{\greekbf \Theta}}
91 \CustomizeMathJax{\newcommand{\bfLambda}{\greekbf \Lambda}}
92 \CustomizeMathJax{\newcommand{\bfXi}{\greekbf \Xi}}
93 \CustomizeMathJax{\newcommand{\bfPi}{\greekbf \Pi}}
94 \CustomizeMathJax{\newcommand{\bfSigma}{\greekbf \Sigma}}
95 \CustomizeMathJax{\newcommand{\bfUpsilon}{\greekbf \Upsilon}}
96 \CustomizeMathJax{\newcommand{\bfPhi}{\greekbf \Phi}}
97 \CustomizeMathJax{\newcommand{\bfPsi}{\greekbf \Psi}}
98 \CustomizeMathJax{\newcommand{\bfOmega}{\greekbf \Omega}}
99 \CustomizeMathJax{\newcommand{\bfzero}{\greekbf 0}}
100 \CustomizeMathJax{\DeclareMathOperator{\cov}{Cov}}
101 \CustomizeMathJax{\DeclareMathOperator{\E}{E}}
102 \CustomizeMathJax{\DeclareMathOperator{\V}{V}}
103 \CustomizeMathJax{\newcommand{\inas}{\overset{a.s.}{\to}}}
104 \CustomizeMathJax{\newcommand{\indist}{\overset{d}{\to}}}
105 \CustomizeMathJax{\newcommand{\inprob}{\overset{p}{\to}}}
106 \CustomizeMathJax{\DeclareMathOperator{\plim}{plim}}
107 \CustomizeMathJax{\DeclareMathOperator{\tr}{tr}}
108 \CustomizeMathJax{\DeclareMathOperator{\vc}{vec}}
109 \CustomizeMathJax{\DeclareMathOperator{\vcs}{vecs}}
110 \CustomizeMathJax{\DeclareMathOperator{\vch}{vech}}
111 \CustomizeMathJax{\DeclareMathOperator{\diag}{diag}}
112 \CustomizeMathJax{\DeclareMathOperator{\argmin}{arg\,,min}}
113 \CustomizeMathJax{\DeclareMathOperator{\argmax}{arg\,,max}}
114 \end{warpMathJax}
```

File 395 **l warp-steinmetz.sty**

§ 495 Package **steinmetz**

(Emulates or patches code by ENRICO GREGORIO.)

Pkg **steinmetz** **steinmetz** is patched for use by **l warp**. Emulation is provided for **MATHJAX**

for HTML output: 1 \LWR@ProvidesPackagePass{steinmetz}[2009/06/14]

```

2 \begin{warpHTML}
3 \renewcommand{\phase}[2][]{
4   \begin{lateximage}*[steinmetz\{\detokenize{\#2}\}]
5   \ensuremath{\underline{/}\#2}
6   \end{lateximage}
7 }
8 \end{warpHTML}
9
10 \begin{warpMathJax}
11 \CustomizeMathJax{\newcommand{\phase}[2][]{\underline{/}\#2}}
12 \end{warpMathJax}
```

File 396 **l warp-stffloats.sty**

§ 496 Package **stfloats**

Pkg stfloats stfloats is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{stfloats}[2017/03/27]

stfloats may have been preloaded by a `\ltj*` class.

The following are provided in case they have not yet been defined:

```
2 \providecommand*\fnbelowfloat{}  
3 \providecommand*\fnunderfloat{}  
4 \providecommand*\setbaselinefloat{}  
5 \providecommand*\setbaselinefixed{}
```

Nullified for HTML:

```
6 \renewcommand*\fnbelowfloat{}  
7 \renewcommand*\fnunderfloat{}  
8 \renewcommand*\setbaselinefloat{}  
9 \renewcommand*\setbaselinefixed{}
```

File 397 **l warp-struktex.sty**

§ 497 Package **struktex**

(Emulates or patches code by JOBST HOFFMANN.)

Pkg struktex struktex is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{struktex}[2018/06/04]

```
2 \BeforeBeginEnvironment{struktogramm}{%  
3   \begin{lateximage}[-struktex-\PackageDiagramAltText]%
```

4 }
5 \AfterEndEnvironment{struktogramm}{\end{lateximage}}
6
7 \newenvironment{\LWR@HTML@centerNss}{\begin{center}}{\end{center}}
8 \LWR@formattedenv{centerNss}
9
10 \newcommand{\LWR@HTML@CenterNssFile}[1]{%
11 \begin{center}
12 \input{#1.nss}
13 \end{center}
14 }
15 \LWR@formatted{CenterNssFile}

```

16
17 \newcommand{\LWR@HTML@centerNssfile}{\LWR@HTML@CenterNsFile}
18 \LWR@formatted{centerNssfile}

```

File 398 **l warp-subcaption.sty**

§ 498 Package **subcaption**

(Emulates or patches code by AXEL SOMMERFELDT.)

Pkg subcaption subcaption is patched for use by l warp.

for HTML output 1 \LWR@ProvidesPackagePass{subcaption}[2018/05/01]

Tells l warp to ignore minipage widths inside a subfigure or subtable. In print mode the minipages are used to place the items next to each other. In HTML they are placed side-by-side automatically.

```

2 \ifdef{\subcaption@minipage}{
3   \xpatchcmd{\subcaption@minipage}
4     {\minipage}
5     {\minipagewidth\minipage}
6     {}
7   {\LWR@patcherror{subcaption}{subcaption@minipage}}
8 }{}

```

Likewise for a \subcaptionbox:

```

9 \ifdef{\subcaptionbox} {
10   \xpretocmd{\subcaptionbox}
11     {\minipagewidth}
12     {}
13   {\LWR@patcherror{subcaption}{subcaptionbox}}
14 }{}

```

File 399 **l warp-subfig.sty**

§ 499 Package **subfig**

(Emulates or patches code by STEVEN DOUGLAS COCHRAN.)

Pkg subfig subfig is supported and patched by l warp.

⚠ **lof/lotdepth** At present, the package options for lofdepth and lotdepth are not working. These counters must be set separately after the package has been loaded.

In the document source, use \hfill and \hspace* subfig>inline between subfigures to spread them apart horizontally. The use of other forms of whitespace may cause paragraph tags to be generated, resulting in subfigures appearing on the following lines instead of all on a single line.

for HTML output: Accept all options for `lwarp-subfig`:

```
1 \LWR@ProvidesPackagePass{subfig}[2005/06/28]
```

```
\sf@@@subfloat {\{1 type\} [\{2 LOF entry\}] [\{3 caption\}] {\{4 contents\}}
```

The outer minipage allows side-by-side subfloats with `\hfill` between.

```
2 \long\def\sf@@@subfloat#1[#2][#3]{#4}{%
3 \begin{minipage}{\linewidth} lwarp
4 \IfValueTF{#2}{%
5   \LWR@setlatestname{#2}%
6 }{%
7   \IfValueTF{#3}{%
8     \LWR@setlatestname{#3}%
9   }{%
10 }%
11 \LWR@stoppars% lwarp
12 \ifundefined{FBsc@max}{%
13   \FB@readaux{\let\FBsuboheight\relax}%
14 \tempcpta=\ne
15 \if@minipage
16   \tempcpta=z@
17 \else\ifdim \lastskip=z@ \else
18   \tempcpta=tw@
19 \fi\fi
20 \ifmaincaptiontop
21   \sf@top=\sf@nearskip
22   \sf@bottom=\sf@farskip
23 \else
24   \sf@top=\sf@farskip
25   \sf@bottom=\sf@nearskip
26 \fi
27 \leavevmode
28 %
29 % \setbox\tempboxa \hbox{#4}%
30 % \tempdima=\wd\tempboxa
31 % \ifundefined{FBsc@max}{%
32 %   \global\advance\Xhsiz-\wd\tempboxa
33 %   \dimen@\ht\tempboxa
34 %   \advance\dimen@\dp\tempboxa
35 %   \ifdim\dimen@>FBso@max
36 %     \global\FBso@max\dimen@
37 %   \fi}%
38 %
39 %
40 %
41 %
42 %
43 %
44 % \vskip\sf@top
```

Do not use boxes, which interfere with `lateximages`:

```
37 % \vtop%
38 \bgroup
39 % \vbox%
40 \bgroup
41 \ifcase\tempcpta
42 \ominipagefalse
43 \or
44 % \vskip\sf@top
```

```

45      \or
46          \ifdim \lastskip=\z@ \else
47 %           \@tempskipb\sf@top\relax\@xaddvskip
48          \fi
49          \fi
50          \sf@ifpositiontop{%
51              \ifx \empty\relax \else
52                  \sf@subcaption{\#1}{\#2}{\#3}%
53 %                   \vskip\sf@capskip
54 %                   \vskip\sf@captionadj
55              \fi\egroup
56 %                   \hrule width0pt height0pt depth0pt
57 %                   \LWR@startpars% lwarp
58 %   \box\@tempboxa
59          #4
60          \LWR@stoppars% lwarp
61      }{%
62          \LWR@startpars% lwarp
63          \@ifundefined{FBsc@max}%
64          {
65 %   \box\@tempboxa
66          #4
67      }%
68      {\ifx\FBsuboheight\relax
69 %           \box\@tempboxa
70          #4
71      \else
72          \vbox to \FBsuboheight{\FBafil\box\@tempboxa\FBbfil}%
73          #4
74      \fi}%
75      \LWR@stoppars% lwarp
76      \egroup
77      \ifx \empty\relax \else
78 %           \vskip\sf@capskip
79 %           \hrule width0pt height0pt depth0pt
80           \sf@subcaption{\#1}{\#2}{\#3}%
81           \fi
82       }%
83 %       \vskip\sf@bottom
84 \egroup
85 \@ifundefined{FBsc@max}{}%
86 {\addtocounter{FRobj}{-1}%
87 \ifnum\c@FRobj=0\else
88     \subfloatrowsep
89 \fi}%
90 \ifmaincaptiontop\else
91     \global\advance\@nameuse{c@\@capttype}\m@ne
92 \fi
93 \end{minipage}% lwarp
94 \LWR@startpars% lwarp
95 \endgroup\ignorespaces%
96 }%

```

\sf@subcaption {⟨1 type⟩} {⟨2 LOF entry⟩} {⟨3 caption⟩}

```
97 \long\def\sf@subcaption#1#2#3{%
98 \LWR@stopars% lwarp
99 \ifx \relax#2\relax \else
100 \bgroup
101   \let\label=\gobble
102   \let\protect=\string
103   \def\@subcaplabel{%
104     \caption@lstmt{@nameuse{p#1}}{@nameuse{the#1}}%
105     \sf@updatecaptionlist{#1}{#2}{\the\value{\captive}}{\the\value{#1}}%
106   }egroup
107 \fi
108 \bgroup
109   \ifx \relax#3\relax
110     \let\captionlabelsep=\relax
111   \fi
112 %   \setbox0\vbox{%
113 %     \hb@xt@\the\@tempdima{%
114 %
115 %       \hss
116 %       \parbox[t]{\the\@tempdima}{%
117 %         \caption@make
118 %           {@nameuse{sub\captive name}}%
119 %           {@nameuse{thesub\captive}}%
120 %           {#3}%
121 %         }%
122 %       \hss
123 %     }
124 %   }%
125   \@ifundefined{FBsc@max}%
126     {\box0}%
127   {
128     \parbox[t]{\the\@tempdima}{%
129 \LWR@traceinfo{sfsucap B1}% lwarp
130   \LWR@figcaption% lwarp
131   \caption@make
132     {@nameuse{sub\captive name}}%
133     {@nameuse{thesub\captive}}%
134     {\LWR@isolate{#3}}%
135   \endLWR@figcaption% lwarp
136 \LWR@traceinfo{sfsucap B2}% lwarp
137 }%
138 }%
139 {\dimen@\ht0%
140 \advance\dimen@\dp0%
141 \ifdim\dimen@>\FBsc@max
142   \global\FBsc@max\dimen@
143 \fi
144 \FB@readaux{\let\FBsubcheight\relax}%
145 \ifx\FBsubcheight\relax
146   \def\next{%
147     \parbox[t]{\the\@tempdima}%
148   }%
149   \else
150     \def\next{%
151       \parbox[t][\FBsubcheight][t]{\the\@tempdima}
```

```

152          }%
153          \fi
154 %          \vbox{%
155 %              \hb@xt@\the\@tempdima{%
156
157 %                  \hss
158 %                  \next{%
159 \LWR@traceinfo{sfsubcap C1}% lwarf
160             \caption@make
161                 {\@nameuse{sub\@capttype name}}%
162                 {\@nameuse{thesub\@capttype}}%
163                 {\#3}
164 \LWR@traceinfo{sfsubcap C1}% lwarf
165 %      }%
166 %          \hss
167
168 %      }
169 %      }
170      }%
171      \egroup
172 \LWR@startpars% lwarf
173 }
```

\subfloat@label Patches for \sf@sub@label:

```

174 \def\subfloat@label{%
175 \LWR@ensuredoingapar% lwarf
176   \@ifnextchar(% %) match left parenthesis
177   {\sf@sub@label}
178   {\sf@sub@label(Sub\@capttype\space
179     \@ifundefined{thechapter}{}{\@nameuse{thechapter}\space}%
180     \@nameuse{p@sub\@capttype}%
181     \@nameuse{thesub\@capttype}.)}}}
```

Patches for \subref.

\sf@subref {<label>}

The unstarred version uses a \ref link whose printed text comes from the sub@<label>:

```

182 \renewcommand{\sf@subref}[1]{%
183 \LWR@subnewref{\#1}{sub@#1}%
184 }
```

\sf@subref {<label>}

The starred version uses the printed sub@<label> which is stored as if it were a page number:

```
185 \renewcommand{\sf@subref}[1]{\LWR@orig@pageref{sub@#1}}
```

Defining new subfloats. The l@sub<type> for each is redefined.

\@newsubfloat [<keys/values>] {<float name>}

```
186 \LetLtxMacro{\LWR@orig@newsubfloat}{\@newsubfloat}
```

```

187
188 \def\@newsubfloat[#1]{%
189 \LWR@orig@newsubfloat[#1]{#2}%
190 \renewcommand{\l@sub#2}[2]{\hypertocfloat{2}{sub#2}{\ext@sub#2}{##1}{##2}}%
191 }

```

Pre-defined for figures and tables:

```

\l@subfigure {\langle text\rangle} {\langle pagenum\rangle}
192 \renewcommand{\l@subfigure}[2]{\hypertocfloat{2}{subfigure}{lof}{#1}{#2}%

\l@subtable {\langle text\rangle} {\langle pagenum\rangle}
193 \renewcommand{\l@subtable}[2]{\hypertocfloat{2}{subtable}{lot}{#1}{#2}}

```

File 400 **lwarp-subfigure.sty**

§ 500 Package **subfigure**

Pkg **subfigure** **subfigure** is emulated by **subfig**.

```

for HTML output: 1 \LWR@ProvidesPackageDrop{subfigure}[2002/03/15]
2 \RequirePackage{subfig}

3 \LetLtxMacro{\subfigure}{\subfloat}
4 \LetLtxMacro{\subtable}{\subfloat}
5 \LetLtxMacro{\Subref}{\subref}
6 \@ifundefined{figuretopcaptrue}{\newif\iffiguretopcap{}}%
7 \newif\ifsubfiguretopcap
8 \newif\ifsubcaphang
9 \newif\ifsubcapcenter
10 \newif\ifsubcapcenterlast
11 \newif\ifsubcapnooneline
12 \newif\ifsubcapraggedright
13 \newskip\subfigtopskip
14 \newskip\subfigcapskip
15 \newdimen\subfigcaptionadj
16 \newskip\subfigbottomskip
17 \newdimen\subfigcapmargin
18 \newskip\subfiglabelskip
19 \newcommand*\subcapsize{[]}
20 \newcommand*\subcaplabelfont{[]}
21 \newcommand*\subcapfont{[]}

```

File 401 **lwarp-subsupscripts.sty**

§ 501 Package **subsupscripts**

(Emulates or patches code by RICCARDO BRESCIANI.)

Pkg subsupscripts **subsubscripts** is used as-is for SVG math, and is emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{subsubscripts}[2009/10/27]

The larger skips are used here.

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{%
4   \newcommand{\fourscriptsC}[7]{%
5     {}^{\#2}_{\#3}\hspace{\#6}\#1\hspace{\#7}{}^{\#4}_{\#5}%
6   }
7 }
8 \CustomizeMathJax{%
9   \newcommand{\lrscriptsC}[5]{%
10    \fourscriptsC{\#1}{\#2}{\#3}{\#4}{\#5}%
11  }
12 }
13 \CustomizeMathJax{%
14   \newcommand{\lrscriptsC}[5]{%
15    \fourscriptsC{\#1}{\#2}{\#3}{\#4}{\#5}%
16  }
17 }
18 \CustomizeMathJax{%
19   \newcommand{\fourscripts}[5]{%
20     \fourscriptsC{\#1}{\#2}{\#3}{\#4}{\#5}%
21   }
22 }
23 \CustomizeMathJax{%
24   \newcommand{\lrsupscripts}[3]{\fourscripts{\#1}{\#2}{\#3}%
25 }
26 \CustomizeMathJax{%
27   \newcommand{\lrscripts}[3]{\fourscripts{\#1}{\#2}{\#3}%
28 }
29 \CustomizeMathJax{%
30   \newcommand{\twoscripts}[4][- .16ex]{{}^{\#3}_{\#4}}\hspace{\#1}#2%
31 }
32 \CustomizeMathJax{%
33   \newcommand{\tworscripts}[4][- .07ex]{{}^{\#2}\hspace{\#1}{}^{\#3}_{\#4}}%
34 }
35 \CustomizeMathJax{%
36   \newcommand{\lsubscript}[3][- .16ex]{\twoscripts{\#1}{\#2}{\#3}%
37 }
38 \CustomizeMathJax{%
39   \newcommand{\lsuperscript}[3][- .16ex]{\twoscripts{\#1}{\#2}{\#3}%
40 }
41 \CustomizeMathJax{%
42   \newcommand{\rsubscript}[3][- .07ex]{\tworscripts{\#1}{\#2}{\#3}%
43 }
44 \CustomizeMathJax{%
45   \newcommand{\rsuperscript}[3][- .07ex]{\tworscripts{\#1}{\#2}{\#3}%
46 }
47 \end{warpMathJax}
```

File 402 **l warp-supertabular.sty**

§ 502 Package **supertabular**

(Emulates or patches code by JOHANNES BRAAMS, THEO JURRIENS.)

Pkg supertabular supertabular is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{supertabular}[2004/02/20]

⚠ Misplaced alignment tab character & For \tablefirsthead, etc., enclose them as follows:

```
\StartDefiningTabulars
\tablefirsthead
...
\StopDefiningTabulars
```

See section 8.10.1.

⚠ lateximage supertabular and xtab are not supported inside a lateximage.

```
2 \newcommand{\LWRST@firsthead}{}%
3
4 \newcommand{\tablefirsthead}[1]{%
5   \long\gdef\LWRST@firsthead{\#1}%
6 }
7
8 \newcommand{\tablehead}[1]{}%
9 \newcommand{\tabletail}[1]{}%
10
11 \newcommand{\LWRST@lasttail}{}%
12
13 \newcommand{\tablelasttail}[1]{%
14   \long\gdef\LWRST@lasttail{\#1}%
15 }

16 \newcommand{\tablecaption}[2][]{%
17   \long\gdef\LWRST@caption{%
18     \ifblank{\#1}{%
19       {\caption{\#2}}%
20       {\caption[\#1]{\#2}}%
21     }%
22   }%
23
24 \let\topcaption\tablecaption
25 \let\bottomcaption\tablecaption

26 \newcommand*\LWRST@caption{}%
27
28 \newcommand*\shrinkheight[1]{}
```

```

29
30 \NewDocumentEnvironment{supertabular}{s o m}
31 {%
32 \LWR@traceinfo{supertabular}%
33 \begin{table}%
34 \LWRST@caption%
35 \begin{tabular}{#3}%
36 \TabularMacro\ifdefvoid{\LWRST@firsthead}%
37 {\LWR@getmynexttoken}%
38 {\expandafter\LWR@getmynexttoken\LWRST@firsthead}%
39 }%
40 {%
41 \ifdefvoid{\LWRST@lasttail}%
42 { }%
43 {%
44 \TabularMacro\ResumeTabular%
45 \LWRST@lasttail%
46 }%
47 \end{tabular}%
48 \end{table}%

49 \gdef\LWRST@caption{}%

50 \LWR@traceinfo{supertabular done}%
51 }%
52
53 \NewDocumentEnvironment{mpsupertabular}{s o m}
54 {\minipage{\linewidth}\supertabular{#3}}%
55 {\endsupertabular\endminipage}

```

File 403 lwarf-svg.sty

§ 503 Package **SVG**

(Emulates or patches code by PHILIP ILTEN, FALK HANISCH.)

Pkg svg **svg** is patched for use by **lwarf**.

for HTML output: 1 \LWR@ProvidesPackagePass{svg}[2019/10/22]

```

2 \xpretocmd{\includesvg}%
3   {\begin{lateximage}}%
4   { }%
5   {\LWR@patcherror{svg}{includesvg}}%
6
7 \xapptocmd{\includesvg}%
8   {\end{lateximage}}%
9   { }%
10  {\LWR@patcherror{svg}{includesvg}}%
11
12 \xpretocmd{\includeinkscape}%
13   {\begin{lateximage}}%

```

```
14      {}%
15      {\LWR@patcherror{svg}{includeinkscape}}
16
17 \xapptocmd{\includeinkscape}%
18   {\end{lateximage}}%
19   {}%
20   {\LWR@patcherror{svg}{includeinkscape}}
```

File 404 l warp-syntonly.sty**§ 504 Package syntonly**

(Emulates or patches code by FRANK MITTELBACH, RAINER SCHÖPF.)

Pkg syntonly syntonly is ignored.

for HTML output: Discard all options for l warp-syntonly:

```
1 \LWR@ProvidesPackageDrop{syntonly}[2017/06/30]

2 \newif\ifsyntax@
3 \syntax@false
4
5 \newcommand*{\syntaxonly}{}%
6
7 \onlypreamble\syntaxonly

8 \def\nopages@{}
```

File 405 l warp-tabfigures.sty**§ 505 Package tabfigures**

Pkg tabfigures tabfigures is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{tabfigures}[2012/01/24]

File 406 l warp-tablefootnote.sty**§ 506 Package tablefootnote**

Pkg tablefootnote tablefootnote is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{tablefootnote}[2014/01/26]

This works because in HTML tables are no longer floats.

```
2 \LetLtxMacro\tablefootnote\footnote
```

File 407 **l warp-tables.sty**

§ 507 Package **tables**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg **tables** **tables** is emulated. `\LWR@hline` is used to handle the optional argument when **tables** is loaded.

for HTML output: 1 `\LWR@ProvidesPackageDrop{tables}`

```
2 \newdimen\tablinesep  
3 \newdimen\arraylinesep  
4 \newdimen\extrarulesep
```

File 408 **l warp-tabularx.sty**

§ 508 Package **tabularx**

(Emulates or patches code by DAVID CARLISLE.)

Pkg **tabularx** **tabularx** is emulated by **l warp**.

for HTML output: Discard all options for **l warp-tabularx**:

```
1 \LWR@ProvidesPackageDrop{tabularx}[2016/02/03]  
2 \RequirePackage{array}  
  
3 \DeclareDocumentEnvironment{tabularx}{m o m}  
4 {\begin{array}{#3}}  
5 {\end{array}}  
6  
7 \DeclareDocumentEnvironment{tabularx*}{m o m}  
8 {\begin{array}{#3}}  
9 {\end{array}}
```

File 409 **l warp-tabulary.sty**

§ 509 Package **tabulary**

(Emulates or patches code by DAVID CARLISLE.)

Pkg **tabulary** **tabulary** is emulated by **l warp**.

for HTML output: Discard all options for l warp-tabulary.

Column types L, C, R, and J are emulated by l warp core code.

```
1 \LWR@ProvidesPackageDrop{tabulary}[2014/06/11]
2 \RequirePackage{array}

3 \NewDocumentEnvironment{tabulary}{m o m}
4 {\begin{array}{#3}}
5 {\end{array}}
6
7 \NewDocumentEnvironment{tabulary*}{m o m}
8 {\begin{array}{#3}}
9 {\end{array}}
10
11 \newdimen\tymin
12 \newdimen\tymax
13 \def\tyformat{}
```

File 410 l warp-tagpdf.sty

§ 510 Package tagpdf

Pkg tagpdf tagpdf is mostly ignored, but emulates alt text, for images only. (HTML only has alternate text for images.)

(If left enabled for HTML output, tagpdf errors when producing HTML, somehow due to the HTML page numbers.)

for HTML output: 1 \LWR@ProvidesPackageDrop{tagpdf}[2019/07/02]

```
2 \ExplSyntaxOn
3
4 \tl_new:N \l__uftag_mc_key_label_tl
5
6 \keys_define:nn { uftag / mc }
7 {
8   tag .code:n = % the name (H,P,Span etc
9   {},
10  raw .code:n =
11  {}
12  ,
13  alttext .code:n      = % Alt property
14  {
15    \gdef\LWR@ThisAltText{\detokenize\expandafter{\#1}}%
16  },
17  alttext-o .code:n     = % Alt property
18  {
19    \gdef\LWR@ThisAltText{\detokenize\expandafter{\#1}}%
20  },
21  actualtext .code:n    = % ActualText property
22  {},
```

```
23   actualtext-o .code:n      = % ActualText property
24   {},
25   label .tl_set:N          = \l__uftag_mc_key_label_tl,
26   artifact .code:n        = {},
27   artifact .default:n     = {notype}
28 }
29
30 \keys_define:nn { uftag / struct }
31 {
32   label .tl_set:N          = \l__uftag_struct_key_label_tl,
33   stash .bool_set:N        = \l__uftag_struct_elem_stash_bool,
34   tag   .code:n           = % S property
35   {},
36   title .code:n          = % T property
37   {},
38   title-o .code:n         = % T property
39   {},
40   alttext .code:n         = % Alt property
41   {
42     \gdef\LWR@ThisAltText{\detokenize\expandafter{\#1}}%
43   },
44   alttext-o .code:n        = % Alt property
45   {
46     \gdef\LWR@ThisAltText{\detokenize\expandafter{\#1}}%
47   },
48   actualtext .code:n      = % ActualText property
49   {},
50   actualtext-o .code:n    = % ActualText property
51   {},
52 }
53
54 \NewDocumentCommand \tagpdfsetup { m }{ }
55
56 \cs_set_eq:NN \tagpdfifluatexTF \sys_if_engine_luatex:TF
57 \cs_set_eq:NN \tagpdfifluatexT \sys_if_engine_luatex:T
58 \cs_set_eq:NN \tagpdfifpdftexT \sys_if_engine_pdftex:T
59 \cs_new:Npn \tagpdfget #1 {}
60 \cs_new:Npn \uftag_get:n #1 {}
61
62 \NewDocumentCommand \tagmcifinTF { m m }{ }
63
64 \NewDocumentCommand \tagmcbegin { m }{\uftag_mc_begin:n {\#1}\ignorespaces}
65 \cs_new_protected:Nn \uftag_mc_begin:n {
66   \group_begin:
67   \keys_set:nn { uftag / mc } {\#1}
68   \group_end:
69 }
70
71 \NewDocumentCommand \tagmcend {}{\ThisAltText{}}
72
73 \cs_new_protected:Nn \uftag_mc_end: {\ThisAltText{}}
74
75 \NewDocumentCommand \tagmcuse { m }{ }
76
77 \cs_new_protected:Nn \uftag_mc_use:n { }
```

```

78
79 \NewDocumentCommand \tagstructbegin { m }{
80   \uftag_struct_begin:n {#1}
81 }
82
83 \cs_new_protected:Nn \uftag_struct_begin:n
84 {
85   \group_begin:
86   \keys_set:nn {uftag / struct} { #1 }
87   \group_end:
88 }
89
90 \NewDocumentCommand \tagstructend { }{\ThisAltText{}}
91
92 \cs_new_protected:Nn \uftag_struct_end: {\ThisAltText{}}
93
94 \NewDocumentCommand \tagstructuse { m }{}
95
96 % \NewDocumentCommand\showtagpdfmcdata { 0 { \__uftag_get_mc_abs_cnt: } }{}
97 % What is the second argument?
98
99 \NewDocumentCommand\showtagpdfattributes { }{}
100
101 \sys_if_engine_luatex:T
102 {
103   \NewDocumentCommand\pdffakespace { }
104   {
105     \__uftag_fakespace:
106   }
107 }
108
109 \ExplSyntaxOff

```

File 411 **l warp-tascmac.sty**

§ 511 Package **tascmac**

Pkg tascmac tascmac is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{tascmac}[2018/03/09]

```

2 \newenvironment*{boxnote}
3   {
4     \BlockClass[
5       padding: .5ex ;
6       border: 1px solid black ;
7       border-top: 1px dashed black ;
8     ]{boxnote}
9   }
10  {\endBlockClass}
11
12 \newenvironment*{screen}[1][]

```

```
13      {
14          \BlockClass[
15              padding: .5ex ;
16              border: 1px solid gray ;
17              border-radius: 8pt
18          ]{boxnote}
19      }
20  {\endBlockClass}
21
22 \newenvironment*{itembox}[2][]{%
23      {
24          \BlockClass[
25              padding: .5ex ;
26              border: 1px solid gray ;
27              border-radius: 8pt
28          ]{boxnote}
29          \InlineClass{itemboxtitle}{#2}\par
30      }
31  {\endBlockClass}
32
33 \newenvironment*{shadebox}{%
34      {
35          \BlockClass[
36              padding: .5ex ;
37              border: 1px solid black ;
38              box-shadow: 3px 3px 3px \#808080 ;
39          ]{boxnote}
40      }
41  {\endBlockClass}
42
43 \newcommand*{\mask}[2]{%
44     \InlineClass[background: lightgray]{mask}{#1}%
45 }
46
47 \newcommand*{\maskbox}[5]{%
48     \InlineClass[background: lightgray]{mask}{#5}%
49 }
50
51 \newcommand*{\Maskbox}[6]{%
52     \InlineClass[
53         background: lightgray ;
54         border: #5 solid black
55     ]{mask}{#6}%
56 }
57
58 \newcommand*{\keytop}[2][]{%
59     \InlineClass[%]
60         padding: .2ex ;
61         border: 1px solid black ;
62         border-radius: .7ex ;
63     ]{keytop}{#2}%
64 }
65
66 \def\yen{\HTMLunicode{00A5}}
67
```

```
68 \def\return{\HTMLunicode{23CE}}
69
70 \def\Return{\HTMLunicode{23CE}}
71
72 \def\ascii{ASCII Corporation}
73
74 \def\Ascii{ASCII Corporation}
75
76 \def\ASCII{ASCII Corporation}
```

File 412 l warp-textarea.sty**§ 512 Package `textarea`**

(Emulates or patches code by ALEXANDER I. ROZHENKO.)

Pkg `textarea` `textarea` is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{textarea}[2005/12/26]

```
2 \newcommand\StartFromTextArea{}
3 \newcommand\StartFromHeaderArea{}
4 \newcommand*\RestoreTextArea{}
5 \newcommand*\ExpandTextArea[1][*]{}{}
6 \let\NCC@restoretarea\empty
```

File 413 l warp-textcomp.sty**§ 513 Package `textcomp`**

(Emulates or patches code by FRANK MITTELBACH, ROBIN FAIRBAIRNS, WERNER LEMBERG.)

Pkg `textcomp` `textcomp` is patched for use by `l warp`.

§ 513.1 Limitations

Some `textcomp` symbols do not have Unicode equivalents, and thus are not supported.

- ⚠ **missing symbols** Many `textcomp` symbols are not supported by many system/browser fonts. In the css try referencing fonts which are more complete, but expect to see gaps in coverage.

§ 513.2 Package loading

for HTML output: 1 \LWR@ProvidesPackagePass{textcomp}[2017/04/05]

§ 513.3 HTML symbols

For HTML, use HTML entities or direct Unicode, depending on the engine.

\AtBeginDocument improves support for Lua^LATEX and X^E^LATEX.

§ 513.3.1 pdf^LATEX symbols

```

2 \AtBeginDocument{
3 \ifPDFTeX% pdflatex or dvi latex
4 \newcommand*{\LWR@HTML@textdegree}{\HTMLentity{deg}}
5 \newcommand*{\LWR@HTML@textcelsius}{\HTMLunicode{2103}}
6 \newcommand*{\LWR@HTML@textohm}{\HTMLunicode{2126}}
7 \newcommand*{\LWR@HTML@textmu}{\HTMLunicode{00B5}}
8 \newcommand*{\LWR@HTML@textlquill}{\HTMLunicode{2045}}
9 \newcommand*{\LWR@HTML@textrquill}{\HTMLunicode{2046}}
10 \newcommand*{\LWR@HTML@textcircledP}{\HTMLunicode{2117}}
11 \newcommand*{\LWR@HTML@texttwelvedash}{\HTMLunicode{2014}}% emdash
12 \newcommand*{\LWR@HTML@textthreequartersemdash}{\HTMLunicode{2014}}% emdash
13 \newcommand*{\LWR@HTML@textmho}{\HTMLunicode{2127}}
14 \newcommand*{\LWR@HTML@textnaira}{\HTMLunicode{20A6}}
15 \newcommand*{\LWR@HTML@textpeso}{\HTMLunicode{20B1}}
16 \newcommand*{\LWR@HTML@textrecipe}{\HTMLunicode{211E}}
17 \newcommand*{\LWR@HTML@textinterrobang}{\HTMLunicode{203D}}
18 \newcommand*{\LWR@HTML@textinterrobangdown}{\HTMLunicode{2E18}}
19 \newcommand*{\LWR@HTML@textperthousand}{\HTMLunicode{2030}}
20 \newcommand*{\LWR@HTML@textpertenthousand}{\HTMLunicode{2031}}
21 \newcommand*{\LWR@HTML@textbaht}{\HTMLunicode{0E3F}}
22 \newcommand*{\LWR@HTML@textdiscount}{\%}
23 \newcommand*{\LWR@HTML@textservicemark}{\HTMLunicode{2120}}
24 \else

```

§ 513.3.2 X^E^LATEX and Lua^LATEX symbols

NOTE: Some of the following do not print well in the listing. Consult the .dtx or .sty file for the actual characters.

```

25 \newcommand*{\LWR@HTML@textdegree}{°}
26 \newcommand*{\LWR@HTML@textcelsius}{℃}
27 \newcommand*{\LWR@HTML@textohm}{Ω}
28 \newcommand*{\LWR@HTML@textmu}{μ}
29 \newcommand*{\LWR@HTML@textlquill}{ℓ}
30 \newcommand*{\LWR@HTML@textrquill}{₱}
31 \newcommand*{\LWR@HTML@textcircledP}{₱}
32 \newcommand*{\LWR@HTML@texttwelvedash}{–}% emdash
33 \newcommand*{\LWR@HTML@textthreequartersemdash}{–}% emdash
34 \newcommand*{\LWR@HTML@textmho}{₫}
35 \newcommand*{\LWR@HTML@textnaira}{₦}
36 \newcommand*{\LWR@HTML@textpeso}{₱}

```

```

37 \newcommand*{\LWR@HTML@textrecipe}{\R}
38 \newcommand*{\LWR@HTML@textinterrobang}{\textinterrobang}
39 \newcommand*{\LWR@HTML@textinterrobangdown}{\textinterrobangdown}
40 \newcommand*{\LWR@HTML@textperthousand}{\textperthousand}
41 \newcommand*{\LWR@HTML@textpertenthousand}{\textpertenthousand}
42 \newcommand*{\LWR@HTML@textbaht}{\textbaht}
43 \newcommand*{\LWR@HTML@textdiscount}{\textdiscount}
44 \newcommand*{\LWR@HTML@textservicemark}{\textservicemark}
45 \fi
46
47 \LWR@formatted{textdegree}
48 \LWR@formatted{textcelsius}
49 \LWR@formatted{textohm}
50 \LWR@formatted{textmu}
51 \LWR@formatted{textlquill}
52 \LWR@formatted{textrquill}
53 \LWR@formatted{textcircledP}
54 \LWR@formatted{texttwelveudash}
55 \LWR@formatted{textthreequartersemdash}
56 \LWR@formatted{textmho}
57 \LWR@formatted{textnaira}
58 \LWR@formatted{textpeso}
59 \LWR@formatted{textrecipe}
60 \LWR@formatted{textinterrobang}
61 \LWR@formatted{textinterrobangdown}
62 \LWR@formatted{textperthousand}
63 \LWR@formatted{textpertenthousand}
64 \LWR@formatted{textbaht}
65 \LWR@formatted{textdiscount}
66 \LWR@formatted{textservicemark}

```

§ 513.4 HTML diacritics

For HTML, Unicode diacritical marks are used:

```

67 \newcommand*{\LWR@HTML@capitalcedilla}[1]{\#1\HTMLunicode{0327}}
68 \newcommand*{\LWR@HTML@capitalogonek}[1]{\#1\HTMLunicode{0328}}
69 \newcommand*{\LWR@HTML@capitalgrave}[1]{\#1\HTMLunicode{0300}}
70 \newcommand*{\LWR@HTML@capitalacute}[1]{\#1\HTMLunicode{0301}}
71 \newcommand*{\LWR@HTML@capitalcircumflex}[1]{\#1\HTMLunicode{0302}}
72 \newcommand*{\LWR@HTML@capitaltilde}[1]{\#1\HTMLunicode{0303}}
73 \newcommand*{\LWR@HTML@capitaldieresis}[1]{\#1\HTMLunicode{0308}}
74 \newcommand*{\LWR@HTML@capitalhungarumlaut}[1]{\#1\HTMLunicode{30B}}
75 \newcommand*{\LWR@HTML@capitalring}[1]{\#1\HTMLunicode{30A}}
76 \newcommand*{\LWR@HTML@capitalcaron}[1]{\#1\HTMLunicode{30C}}
77 \newcommand*{\LWR@HTML@capitalbreve}[1]{\#1\HTMLunicode{306}}
78 \newcommand*{\LWR@HTML@capitalmacron}[1]{\#1\HTMLunicode{304}}
79 \newcommand*{\LWR@HTML@capitaldotaccent}[1]{\#1\HTMLunicode{307}}

```

\textcircled becomes a span with a rounded border. \providecommand is used to avoid conflict with xunicode.

```

80 \providecommand*{\LWR@HTML@textcircled}[1]{%
81 \InlineClass[border: 1px solid \LWR@currenttextcolor]{textcircled}{\#1}%
82 }

```

```
83
84 \LWR@formatted{capitalcedilla}
85 \LWR@formatted{capitalogonek}
86 \LWR@formatted{capitalgrave}
87 \LWR@formatted{capitalacute}
88 \LWR@formatted{capitalcircumflex}
89 \LWR@formatted{capitaltilde}
90 \LWR@formatted{capitaldieresis}
91 \LWR@formatted{capitalhungarumlaut}
92 \LWR@formatted{capitalring}
93 \LWR@formatted{capitalcaron}
94 \LWR@formatted{capitalbreve}
95 \LWR@formatted{capitalmacron}
96 \LWR@formatted{capitaldotaccent}
97 \LWR@formatted{textcircled}
```

Nullify `textcomp` macros when generating filenames:

```
98 \FilenameNullify{%
99   \renewcommand*{\textdegree}{ }%
100  \renewcommand*{\textcelsius}{ }%
101  \renewcommand*{\textohm}{ }%
102  \renewcommand*{\textmu}{ }%
103  \renewcommand*{\textlquill}{ }%
104  \renewcommand*{\textrquill}{ }%
105  \renewcommand*{\textcircledP}{ }%
106  \renewcommand*{\texttwelveudash}{ }%
107  \renewcommand*{\textthreequartersemdash}{ }%
108  \renewcommand*{\textmho}{ }%
109  \renewcommand*{\textnaira}{ }%
110  \renewcommand*{\textpeso}{ }%
111  \renewcommand*{\textrecipe}{ }%
112  \renewcommand*{\textinterrobang}{ }%
113  \renewcommand*{\textinterrobangdown}{ }%
114  \renewcommand*{\textperthousand}{ }%
115  \renewcommand*{\textpertenthousand}{ }%
116  \renewcommand*{\textbaht}{ }%
117  \renewcommand*{\textdiscount}{ }%
118  \renewcommand*{\textservicemark}{ }%
119  \renewcommand*{\textcircled}[1]{\#1}%
120  \renewcommand*{\capitalcedilla}[1]{\#1}%
121  \renewcommand*{\capitalogonek}[1]{\#1}%
122  \renewcommand*{\capitalgrave}[1]{\#1}%
123  \renewcommand*{\capitalacute}[1]{\#1}%
124  \renewcommand*{\capitalcircumflex}[1]{\#1}%
125  \renewcommand*{\capitaltilde}[1]{\#1}%
126  \renewcommand*{\capitaldieresis}[1]{\#1}%
127  \renewcommand*{\capitalhungarumlaut}[1]{\#1}%
128  \renewcommand*{\capitalring}[1]{\#1}%
129  \renewcommand*{\capitalcaron}[1]{\#1}%
130  \renewcommand*{\capitalbreve}[1]{\#1}%
131  \renewcommand*{\capitalmacron}[1]{\#1}%
132  \renewcommand*{\capitaldotaccent}[1]{\#1}%
133 }% \FilenameNullify
134
```

```
135 }% AtBeginDocument
```

File 414 l warp-textfit.sty**§ 514 Package textfit**

Pkg textfit textfit is emulated.

Text is placed into a of class textfit. Sizes are approximated, and also limited by browser min/max font-size settings.

for HTML output: 1 \LWR@ProvidesPackageDrop{textfit}[1994/04/15]

```
2 \newsavebox{\LWR@textfitbox}
3
4 \newcommand*{\LWR@textfitscale}[2]{%
5 \setlength{\LWR@templengthone}{#1}%
6 \setlength{\LWR@templengthone}{%
7   1em*\ratio{\LWR@templengthone}{\LWR@templengthtwo}%
8 }%
9 \InlineClass[font-size:\LWR@printlength{\LWR@templengthone}]{textfit}{#2}%
10 }
11
12 \newcommand*{\scaletowidth}[2]{%
13 \sbox{\LWR@textfitbox}{#2}%
14 \settowidth{\LWR@templengthtwo}{\usebox{\LWR@textfitbox}}%
15 \LWR@textfitscale{#1}{#2}%
16 }
17
18 \newcommand*{\scaletoheight}[2]{%
19 \sbox{\LWR@textfitbox}{#2}%
20 \settoheight{\LWR@templengthtwo}{\usebox{\LWR@textfitbox}}%
21 \LWR@textfitscale{#1}{#2}%
22 }
```

File 415 l warp-textpos.sty**§ 515 Package textpos**

(Emulates or patches code by NORMAN GRAY.)

Pkg textpos textpos is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{textpos}[2019/04/15]

```
2 \NewDocumentEnvironment{textblock}{m o r(){}{}{}}
3 \NewDocumentEnvironment{textblock*}{m o r(){}{}{}}
4 \newcommand*{\TPGrid}[3][]{\sbox{#1}{#2}{#3}}
5 \NewDocumentCommand{\TPMargin}{s o}{}{#1}
6 \newcommand*{\textblockcolour}[1]{}{#1}
```

```

7 \newcommand*\textblockrulecolour}[1]{}
8 \newcommand*\textblockcolor}[1]{}
9 \newcommand*\textblockrulecolor}[1]{}
10 \newcommand*\tekstblokkulur}[1]{}
11 \newcommand*\tekstblokrulekulur}[1]{}
12 \newlength\TPHorizModule
13 \newlength\TPVertModule
14 \newlength\TPboxrulesize
15 \newcommand\textblocklabel}[1]{}
16 \newcommand\showtextsize}{}
17 \newcommand\textblockorigin}[2]{}
18 \newcommand\TPoptions}[1]{}
19 \newcommand\TPreferencePosition}[1]{}

```

File 416 **l warp-theorem.sty**

§ 516 Package **theorem**

(Emulates or patches code by FRANK MITTELBACH.)

Pkg theorem **theorem** is patched for use by **l warp**.

Table 16: Theorem package—css styling of theorems and proofs

Theorem: <div> of class theorembody<theoremstyle>

Theorem Header: of class theoremheader

where <theoremstyle> is plain, break, etc.

for HTML output: 1 \LWR@ProvidesPackagePass{theorem}[2014/10/28]

§ 516.1 **Remembering the theorem style**

Storage for the style being used for new theorems:

2 \newcommand{\LWR@newtheoremstyle}{plain}

Patched to remember the style being used for new theorems:

```

3 \gdef\theoremstyle#1{%
4   \@ifundefined{th@#1}{\@warning
5     {Unknown theoremstyle '#1'. Using 'plain'}%
6     \theorem@style{plain}%
7     \renewcommand{\LWR@newtheoremstyle}{plain}\% l warp
8   }%
9   {%
10     \theorem@style{#1}%
11     \renewcommand{\LWR@newtheoremstyle}{#1}\% l warp
12   }%
13   \begingroup

```

```

14      \csname th@\the\theorem@style \endcsname
15      \endgroup}

```

Patched to remember the style for this theorem type, and set it later when the environment is started.

```

16 \gdef\xnthy#1#2[#3]{%
17   \expandafter\@ifdefinable\csname #1\endcsname
18   {%
19     \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}{% lwarp
20     \@definecounter{#1}\@newctr{#1}[#3]%
21     \expandafter\xdef\csname the#1\endcsname
22       {\expandafter\noexpand\csname the#3\endcsname
23         \@thmcOUNTERsep\@thmcOUNTER{#1}}%
24     \def\@tempa{\global\@namedef{#1}}%
25     \expandafter\@tempa \expandafter{%
26       \csname th@\the\theorem@style
27         \expandafter\endcsname \the\theorem@bodyfont
28         \@thm{#1}{#2}}%
29     \global\expandafter\let\csname end#1\endcsname\@endtheorem
30     \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\@nameuse{LWR@thmstyle#1}}}% lwarp
31   }%
32 }
33 \gdef\ynthy#1#2{%
34   \expandafter\@ifdefinable\csname #1\endcsname
35   {%
36     \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}{% lwarp
37     \@definecounter{#1}%
38     \expandafter\xdef\csname the#1\endcsname{\@thmcOUNTER{#1}}%
39     \def\@tempa{\global\@namedef{#1}}\expandafter\@tempa
40     \expandafter{\csname th@\the\theorem@style \expandafter
41       \endcsname \the\theorem@bodyfont \@thm{#1}{#2}}%
42     \global\expandafter\let\csname end#1\endcsname\@endtheorem
43     \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\@nameuse{LWR@thmstyle#1}}}% lwarp
44   }%
45 }
46 \gdef\othy#1[#2]{%
47   \expandafter\ifx\csname c@#2\endcsname\relax
48   \nocounterr{#2}%
49   \else
50   \expandafter\@ifdefinable\csname #1\endcsname
51   {%
52     \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}{% lwarp
53     \expandafter\xdef\csname the#1\endcsname
54       {\expandafter\noexpand\csname the#2\endcsname}%
55     \def\@tempa{\global\@namedef{#1}}\expandafter\@tempa
56     \expandafter{\csname th@\the\theorem@style \expandafter
57       \endcsname \the\theorem@bodyfont \@thm{#2}{#3}}%
58     \global\expandafter\let\csname end#1\endcsname\@endtheorem
59     \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\@nameuse{LWR@thmstyle#1}}}% lwarp
60   }%
61 \fi}

```

§ 516.2 css patches

The following are patched for css.

These were in individual files thp.sty for plain, thmb.sty for margin break, etc. They are gathered together here.

Each theorem is encased in a `BlockClass` environment of class `theorembody<style>`.

Each header is encased in an `\InlineClass` of class `theoremheader`.

```
62 \gdef\th@plain{%
63   \def\@begintheorem##1##2{%
64     \item[
65       \InlineClass{theoremheader}{##1\ ##2}
66     ]
67   }%
68 \def\@opargbegintheorem##1##2##3{%
69   \item[
70     \InlineClass{theoremheader}{##1\ ##2\ (###3)}
71   ]
72 }
73 }
74
75 \gdef\th@break{%
76   \def\@begintheorem##1##2{%
77     \item[
78       \InlineClass{theoremheader}{##1\ ##2}\newline%
79     ]
80   }%
81 \def\@opargbegintheorem##1##2##3{%
82   \item[
83     \InlineClass{theoremheader}{##1\ ##2\ (###3)}\newline%
84   ]
85 }
86 }
87
88 \gdef\th@marginbreak{%
89   \def\@begintheorem##1##2{%
90     \item[
91       \InlineClass{theoremheader}{##2 \qquad ##1}\newline%
92     ]
93   }%
94 \def\@opargbegintheorem##1##2##3{%
95   \item[
96     \InlineClass{theoremheader}{##2 \qquad ##1\ %
97     (###3)}\newline%
98   ]
99 }
100 }
101
102 \gdef\th@changebreak{%
103   \def\@begintheorem##1##2{%
104     \item[
105       \InlineClass{theoremheader}{##2\ ##1}\newline%
106     ]
107 }
```

```

107      }%
108 \def\@opargbegintheorem##1##2##3{%
109     \item[%
110         \InlineClass{theoremheader}{##2\ ##1\ %
111             (##3)}\newline
112     ]
113 }
114 }
115
116 \gdef\th@change{%
117   \def\@begintheorem##1##2{%
118     \item[%
119         \InlineClass{theoremheader}{##2\ ##1}
120     ]
121   }%
122 \def\@opargbegintheorem##1##2##3{%
123   \item[%
124       \InlineClass{theoremheader}{##2\ ##1\ (##3)}
125   ]
126 }
127 }
128
129 \gdef\th@margin{%
130   \def\@begintheorem##1##2{%
131     \item[%
132         \InlineClass{theoremheader}{##2 \qquad ##1}
133     ]
134   }%
135 \def\@opargbegintheorem##1##2##3{%
136   \item[%
137       \InlineClass{theoremheader}{##2 \qquad ##1\ (##3)}
138   ]
139 }
140 }

```

Patched for css:

```

141 \gdef\@thm#1#2{\refstepcounter{#1}%
142 \LWR@forcenewpage% lwarp
143   \BlockClass{theorembdy}\LWR@thisthmstyle}% lwarp
144   \trivlist
145   \atopsep \theorempreskipamount           % used by first \item
146   \atopsepadd \theorempostskipamount       % used by \endparenv
147   \@ifnextchar [%]
148   { \@ythm{#1}{#2} }%
149   { \begin{theorem}{#2}{\csname the#1\endcsname}\ignorespaces}%
150
151 \gdef\@endtheorem{%
152 \endtrivlist
153 \endBlockClass
154 }

```

File 417 l warp-thinsp.sty**§ 517 Package thinsp**

Pkg thinsp thinsp is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{thinsp}[2016/10/02]

```
2 \AtBeginDocument{
3 \let\thinthinspace\relax% defined by some packages
4 \newcommand*\thinthinspace{\thinspace}
5 }
6
7 \newcommand*\stretchthinspace{\thinspace}
8 \newcommand*\stretchthinthinspace{\thinthinspace}
9 \newcommand*\stretchnegthinspace{\negthinspace}
```

File 418 l warp-threadcol.sty**§ 518 Package threadcol**

Pkg threadcol threadcol is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{threadcol}[2013/01/06]

```
2 \newcommand{\setthreadname}[1]{}
```

File 419 l warp-threeparttable.sty**§ 519 Package threeparttable**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg threeparttable threeparttable is emulated.

Table note are contained inside a css <div> of class tnotes. If enumitem is used, the note item labels are also individually highlighted with an additional css of class tnoteitemheader, otherwise they are plain text.

for HTML output: 1 \LWR@ProvidesPackageDrop{threeparttable}[2003/06/13]

Env threeparttable [$\langle alignment \rangle$]

```
2 \newenvironment*{threeparttable}[1][b]
3   {\def\@captype{table}}
4 }
```

```

Env  tablenotes  [<options>]
      5 \newenvironment*{tablenotes}[1]{}
      6 {%
      7 \LWR@forcenewpage
      8 \BlockClass{tnotes}{}

      9 \description{%
      10 }
      11 {%
      12 \enddescription{%
      13 \endBlockClass{%
      14 }

\tnote  {[<text>]}
      15 \newcommand{\tnote}[1]{\LWR@htmlspan{sup}{#1}}

```

```

Env  measuredfigure  [<alignment>]
      16 \newenvironment*{measuredfigure}[1][t]{}
      17   {\def\@captype{figure}}
      18   {}

```

File 420 **lwarp-threeparttablex.sty**

§ 520 Package **threeparttablex**

Pkg threeparttablex threeparttablex is patched for use by lwarp.

threeparttablex is used with longtable and booktabs as follows:

```

\begin{longtable}{ [column specifiers] }
[ . . . ] \endfirsthead % or \endhead, for print and HTML
\warpprintonly{ % not used in HTML
[ . . . ] \endhead % or \endfirsthead
[ . . . ] \endfoot
\bottomrule \insertTableNotes \endlastfoot
}
. . . table contents . .
\warpHTMLonly{ % HTML last footer
\bottomrule
\UseMinipageWidths % optional
\insertTableNotes
\endlastfoot
}
\end{longtable}

```

table width The table notes are created using a `\multicolumn`. By default the width is not specified to the browser, so long table notes can cause the table to be spread out horizontally. For HTML output, lwarp guesses the width of the table depending on the number of

columns, then restricts its guess to a min/max range. To use this guess for the width of the table notes, use `\UseMinipageWidths` before `\insertTableNotes`. The width is then specified, and in many cases the result is an improvement in overall table layout.

for HTML output: 1 \LWR@ProvidesPackagePass{threeparttablex}[2013/07/23]

The width is guessed depending on the number of columns, then limited to a min/max.

```

2 \renewcommand\insertTableNotes{%
3   \setlength{\LWR@templengthone}{.375in*\value{LWR@tabletotalLaTeXcols}}%
4   \setlength{\LWR@templengthone}{\minof{\textwidth}{\LWR@templengthone}}%
5   \setlength{\LWR@templengthone}{\maxof{2.5in}{\LWR@templengthone}}%
6   \multicolumn{\value{LWR@tabletotalLaTeXcols}}{c}{%
7     \parbox{\LWR@templengthone}{%
8       \begin{tablenotes}[\TPTL@optarg]%
9         \TPTL@font%
10        \TPTL@body%
11      \end{tablenotes}%
12    }%
13  }%
14 }
15
16 \renewcommand\TPTL@tnotex[2]{\tnote{\nameref{#2}}}

```

File 421 **l warp-thumb.sty**

§ 521 Package **thumb**

Pkg thumb **thumb** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{thumb}[1997/12/24]

```

2 \newcommand*\Overviewpage{}%
3 \newlength{\thumbheight}%
4 \newlength{\thumbwidth}%

```

File 422 **l warp-thumbs.sty**

§ 522 Package **thumbs**

Pkg thumbs **thumbs** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{thumbs}[2014/03/09]

```

2 \newcommand{\addthumb}[4]{}%
3 \newcommand{\addtitlethumb}[5]{}%
4 \newcommand{\stopthumb}{}%
5 \newcommand{\continuethumb}{}%
6 \newcommand{\thumbsoverview}[1]{}%

```

```

7 \newcommand{\thumbsoverviewback}[1]{}
8 \newcommand{\thumbsoverviewverso}[1]{}
9 \newcommand{\thumbsoverviewdouble}[1]{}
10 \newcommand{\thumbnewcolumn}={}
11 \newcommand{\addthumbsoverviewtocontents}[2]{}
12 \newcommand{\thumbsnophantom}={}

```

File 423 **l warp-tikz.sty**

§ 523 Package **tikz**

(Emulates or patches code by TILL TANTAU.)

Pkg **tikz** tikz is supported.

⚠ **displaymath and matrices** If using display math with tikzpicture or \tikz, along with matrices with the & character, the document must be modified as follows:

```
\usepackage{tikz}
\tikzset{every picture/.style={ampersand replacement=\&}}
```

and each instance of & in the tikz expression must be replaced with \&.

Accept all options for l warp-tikz:

```
1 \LWR@ProvidesPackagePass{tikz}[2015/08/07]
```

catcodes l warp changes the catcode of \$ for its own use. The Tikz babel library temporarily changes catcodes back to normal for Tikz's use. tikz v3.0.0 introduced the babel library which handles catcode changes. For older versions, l warp must change \$'s catcode itself.

Also see:

<https://tex.stackexchange.com/questions/16199/test-if-a-package-or-package-option-is-loaded>

```

2 \newbool{\LWR@tikzbabel}
3
4 \@ifpackagelater{tikz}{2013/12/20}% Test for Tikz version v3.0.0
5 {\usetikzlibrary{babel}\booltrue{\LWR@tikzbabel}}
6 {\boolfalse{\LWR@tikzbabel}}
```

Env pgfpicture The \pgfpicture environment is enclosed inside a \latextimage. Enclose the low-level \pgfpicture in a \latextimage. This is also used by the higher-level \tikz and tikzpicture.

```

7 \preto\pgfpicture{%
8   \begin{latextimage}[-tikz-\~\PackageDiagramAltText]%
9   \ifbool{\LWR@tikzbabel}% Test for Tikz version v3.0.0
10  {}%
11  {\catcode`\$=3}% dollar sign is math shift
```

```

12 }
13
14 \appto\endpgfpicture{\end{lateximage}}
```

Tikz is placed inside an svg image, so use the original meanings of the following:

```

15 \LetLtxMacro\pgfutil@minipage\LWR@print@minipage
16 \let\pgfutil@endminipage\endLWR@print@minipage
17
18 \let\pgfutil@raggedleft\LWR@print@raggedleft
19 \let\pgfutil@raggedright\LWR@print@raggedright
20
21 \def\pgfutil@font@tiny{\LWR@printtiny}
22 \def\pgfutil@font@scriptsize{\LWR@printsizescript}
23 \def\pgfutil@font@footnotesize{\LWR@printfootnotesize}
24 \def\pgfutil@font@small{\LWR@print@small}
25 \def\pgfutil@font@normalsize{\LWR@print@normalsize}
26 \def\pgfutil@font@large{\LWR@printlarge}
27 \def\pgfutil@font@Large{\LWR@printLarge}
28 \def\pgfutil@font@huge{\LWR@printhuge}
29 \def\pgfutil@font@Huge{\LWR@printHuge}
30
31 \def\pgfutil@font@itshape{\LWR@origitshape}
32 \def\pgfutil@font@bfseries{\LWR@origbfseries}
33
34 \def\pgfutil@font@normalfont{\LWR@orignormalfont}
```

File 424 **lwarf-titleps.sty**

§ 524 Package **titleps**

(Emulates or patches code by JAVIER BEZOS.)

Pkg **titleps** **titleps** is loaded and used by **lwarf** during **HTML** output. All user options and macros are ignored and disabled.

Discard all options for **lwarf-titleps**:

for HTML output: 1 \LWR@ProvidesPackageDrop{titleps}[2016/03/15]

\pagestyle and \thispagestyle are already disabled in the **lwarf** code.

```

\newpagestyle  {\langle name\rangle} [\langle style\rangle] {\langle commands\rangle}
               2 \NewDocumentCommand{\newpagestyle}{m o m}{}}

\renewpagestyle {\langle name\rangle} [\langle style\rangle] {\langle commands\rangle}
               3 \NewDocumentCommand{\renewpagestyle}{m o m}{}}

\sethead  [\langle el\rangle] [\langle ec\rangle] [\langle er\rangle] {\langle ol\rangle} {\langle oc\rangle} {\langle or\rangle}
```

```
4 \NewDocumentCommand{\sethead}{o o o m m m}{}  
  
\setfoot [⟨el⟩] [⟨ec⟩] [⟨er⟩] {⟨ol⟩} {⟨oc⟩} {⟨or⟩}  
5 \NewDocumentCommand{\setfoot}{o o o m m m}{}  
  
\settilemarks * {⟨names⟩}  
6 \NewDocumentCommand{\settilemarks}{s m}{}  
  
\headrule  
7 \newcommand*{\headrule}{}  
  
\footrule  
8 \newcommand*{\footrule}{}  
  
\setheadrule {⟨length⟩}  
9 \newcommand*{\setheadrule}[1]{}  
  
\setfootrule {⟨length⟩}  
10 \newcommand*{\setfootrule}[1]{}  
  
\makeheadrule  
11 \newcommand*{\makeheadrule}{}  
  
\makefootrule  
12 \newcommand*{\makefootrule}{}  
  
\setmarkboth {⟨code⟩}  
13 \newcommand*{\setmarkboth}[1]{}  
  
\widenhead  
14 \NewDocumentCommand{\widenhead}{s o o m m}{}  
  
\bottilemarks  
15 \newcommand*{\bottilemarks}{}  
  
\toptilemarks  
16 \newcommand*{\toptilemarks}{}  
  
\firstrulemarks
```

```
17 \newcommand*{\firsttitlemarks}{}  
  
\nexttitlemarks  
18 \newcommand*{\nexttoptitlemarks}{}  
  
\outertitlemarks  
19 \newcommand*{\outertitlemarks}{}  
  
\innertitlemarks  
20 \newcommand*{\innertitlemarks}{}  
  
\newtitlemark * {\langle name\rangle}  
21 \NewDocumentCommand{\newtitlemark}{s m}{}  
  
\pretitlemark * {\langle section\rangle} {\langle text\rangle}  
22 \NewDocumentCommand{\pretitlemark}{s m m}{}  
  
\ifsamemark {\langle group\rangle} {\langle command\rangle} {\langle true\rangle} {\langle false\rangle}  
23 \newcommand{\ifsamemark}[4]{}  
  
\setfloathead * [⟨.⟩] [⟨.⟩] [⟨.⟩] {⟨.⟩} {⟨.⟩} {⟨.⟩} {⟨extra⟩} [⟨which⟩]  
24 \NewDocumentCommand{\setfloathead}{s o o m m m m m}{}  
  
\setfloatfoot * [⟨.⟩] [⟨.⟩] [⟨.⟩] {⟨.⟩} {⟨.⟩} {⟨.⟩} {⟨extra⟩} [⟨which⟩]  
25 \NewDocumentCommand{\setfloatfoot}{s o o m m m m m}{}  
  
\nextfloathead * [⟨.⟩] [⟨.⟩] [⟨.⟩] {⟨.⟩} {⟨.⟩} {⟨.⟩} {⟨extra⟩} [⟨which⟩]  
26 \NewDocumentCommand{\nextfloathead}{s o o m m m m m}{}  
  
\nextfloatfoot * [⟨.⟩] [⟨.⟩] [⟨.⟩] {⟨.⟩} {⟨.⟩} {⟨.⟩} {⟨extra⟩} [⟨which⟩]  
27 \NewDocumentCommand{\nextfloatfoot}{s o o m m m m m}{}  
  
\newmarkset {\langle markset\rangle}  
28 \newcommand{\newmarkset}[1]{}  
  
\newextramark * {\langle markset\rangle} {\langle macro-name\rangle}  
29 \NewDocumentCommand{\newextramark}{s m m}{}  
  
\botextramarks {\langle markset\rangle}
```

```
30 \newcommand{\botextramarks}[1]{}

\topextramarks  {\langle markset\rangle}
31 \newcommand{\topextramarks}[1]{}

\firsextramarks {\langle markset\rangle}
32 \newcommand{\firsextramarks}[1]{}

\nextextramarks {\langle markset\rangle}
33 \newcommand{\nexttopextramarks}[1]{}

\outerextramarks {\langle markset\rangle}
34 \newcommand{\outerextramarks}[1]{}

\innerextramarks {\langle markset\rangle}
35 \newcommand{\innerextramarks}[1]{}
```

File 425 **l warp-titleref.sty**

§ 525 Package **titleref**

Pkg titleref titleref is emulated.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{titleref}[2001/04/05]
2
3 \LetLtxMacro\titleref\nameref
4
5 \providecounter{LWR@currenttitle}
6
7 \newcommand*{\currenttitle}{%
8   \addtocounter{LWR@currenttitle}{1}%
9   \label{currenttitle}\arabic{LWR@currenttitle}}%
10 \nameref{currenttitle}\arabic{LWR@currenttitle}}%
11 }
12
13 \newcommand*{\theTitleReference}[2]{}
```

File 426 **l warp-titlesec.sty**

§ 526 Package **titlesec**

(Emulates or patches code by JAVIER BEZOS.)

Pkg titlesec titlesec is emulated. All user options and macros are ignored and disabled.

Discard all options for `lwarp-titlesec`:

```
for HTML output: 1 \LWR@ProvidesPackageDrop{titlesec}[2016/03/21]

\titelabel {⟨label-format⟩}
2 \newcommand*\titelabel[1] {}

\titleformat* {⟨command⟩} {⟨format⟩}

\titleformat {⟨command⟩} [⟨shape⟩] {⟨format⟩} {⟨label⟩} {⟨sep⟩} {⟨begfore⟩} [⟨after⟩]
3 \newcommand\titleformat{%
4   \@ifstar{\ttl@format@s}{%
5     {\ttl@format@i}}%
6 \newcommand{\ttl@format@s}[1]{%
7 \NewDocumentCommand{\ttl@format@i}{m o m m m o}{}}

\chapertitlename
8 \@ifundefined{@chapapp}{\let\@chapapp\chaptername}{}
9 \newcommand\chapertitlename{\@chapapp}

\titlespacing * {⟨command⟩} {⟨left⟩} {⟨before⟩} {⟨after⟩} [⟨right⟩]
10 \NewDocumentCommand{\titlespacing}{s m m m m o}{}

\filright
11 \newcommand*\filright{}

\filcenter
12 \newcommand*\filcenter{}

\filleft
13 \newcommand*\filleft{}

\fillast
14 \newcommand*\fillast{}

\filinner
15 \newcommand*\filinner{}

\filouter
16 \newcommand*\filouter{}
```

```

\wordsep
17 \newcommand\wordsep{\fontdimen\tw@\font \oplus
18   \fontdimen\thr@@\font \ominus \fontdimen4\font}

\titleline * [<align>] {<material>}
19 \NewDocumentCommand{\titleline}{s o m} {}

\titlerule [<height>]
20 \providecommand*\titlerule{@ifstar{\ttl@row}{\ttl@rule}}
21 \newcommand*\ttl@rule[1][]{}
22 \newcommand*\ttl@row[2][]{}

\iftitlemeasuring {<true>} {<false>}
23 \newcommand{\iftitlemeasuring}[2]{#2}

\assignpagestyle {<command>} {<pagestyle>}
24 \newcommand{\assignpagestyle}[2]{#2}

\titleclass {<name>} [<startlevel>] {<class>} [<cmd>]
25 \NewDocumentCommand{\titleclass}{m o m o} {}

```

File 427 **lwarp-titletoc.sty**

§ 527 Package **titletoc**

(Emulates or patches code by JAVIER BEZOS.)

Pkg **titletoc** **titletoc** is emulated. All user options and macros are ignored and disabled.

Discard all options for **lwarp-titletoc**:

```

for HTML output: 1 \LWR@ProvidesPackageDrop{titletoc}[2011/12/15]

\dottedcontents {<section>} [<left>] {<above>} {<label>} {<leader>}
2 \NewDocumentCommand{\dottedcontents}{m o m m m} {}

\titlecontents * {<section>} [<left>] {<above>} {<numbered>} {<numberless>} {<filler>} [<below or
begin>] [<separator>] [<end>]
3 \newcommand{\titlecontents}{@ifstar{\ttl@tcstar}{\ttl@tcnostar}}
4 \NewDocumentCommand{\ttl@tcstar}{m o m m m o o o} {}
5 \NewDocumentCommand{\ttl@tcnostar}{m o m m m m o} {}

\contentsmargin [<correction>] {<right>}

```

```
6 \newcommand{\contentsmargin}[2][]{}

\thecontentslabel
7 \newcommand*{\thecontentslabel}{\thecontentslabel}

\thecontentspage
8 \newcommand*{\thecontentspage}{\thecontentspage}

\contentslabel [⟨format⟩] {⟨space⟩}
9 \newcommand{\contentslabel}[2][]{\thecontentslabel}

\contentspage [⟨format⟩]
10 \newcommand{\contentspage}[1][]{\thecontentspage}

\contentspush {⟨text⟩}
11 \newcommand{\contentspush}[1]{}

\contentsuse {⟨name⟩} {⟨text⟩}
12 \newcommand{\contentsuse}[2]{}

\startcontents [⟨name⟩]
13 \newcommand*{\startcontents}[1][]{}

\stopcontents [⟨name⟩]
14 \newcommand*{\stopcontents}[1][]{}

\resumecontents [⟨name⟩]
15 \newcommand*{\resumecontents}[1][]{}

\printcontents [⟨name⟩] {⟨prefix⟩} {⟨start⟩} {⟨code⟩}
16 \newcommand{\printcontents}[4][]{}

\startlist [⟨name⟩] {⟨list⟩}
17 \newcommand{\startlist}[2][]{}

\stoplist [⟨name⟩] {⟨list⟩}
18 \newcommand{\stoplist}[2][]{}

\resumelist [⟨name⟩] {⟨list⟩}
```

```
19 \newcommand{\resumelist}[2][]{}
\printlist  [\langle name\rangle ] {\langle list\rangle } {\langle prefix\rangle } {\langle code\rangle }
20 \newcommand{\printlist}[4][]{}
```

File 428 l warp-titling.sty

§ 528 Package **titling**

(Emulates or patches code by PETER WILSON.)

Pkg titling

package support l warp supports the native L^AT_EX titling commands, and also supports the packages authblk and titling. If both are used, authblk should be loaded before titling.

⚠ load order

\published and \subtitle If using the titling package, additional titlepage fields for \published and \subtitle may be added by using \AddSubtitlePublished in the preamble. See section 66.8.

The various titling footnote restyling commands have no effect.

Pass all options to l warp-titling:

for HTML output: 1 \LWR@ProvidesPackagePass{titling}[2009/09/04]

\@bsmtitleempty Patch \@bsmtitleempty:

```
2 \let\LWR@orig@bsmtitleempty\@bsmtitleempty
3 \renewcommand*\@bsmtitleempty{%
4 \LWR@orig@bsmtitleempty%
5 }
```

\keepthetitle Patch \keepthetitle:

```
6 \let\LWR@origkeepthetitle\keepthetitle
7 \renewcommand*\keepthetitle{%
8 \LWR@orig@keepthetitle%
9 }
```

\killtitle Patch \killtitle:

```
10 \let\LWR@origkilltitle\killtitle
11 \renewcommand*\killtitle{%
12 \LWR@orig@killtitle%
13 }
```

Env titlingpage

```
14 \renewenvironment*{titlingpage}{%
15 {%
```

Start an HTML titlepage div:

```
16 \LWR@printpendingfootnotes
17 \begin{titlepage}
```

Prepare for a custom version of \maketitle inside the titlingpage:

```
18 \LWR@maketitlesetup
19 \let\maketitle\LWR@titlingmaketitle
20 }
21 {
```

At the end of the environment, end the HTML titlepage div:

```
22 \end{titlepage}
23 }
```

Patch the pre/post title/author/date to add HTML tags, then initialize:

```
24
25 \pretitle{}
26 \posttitle{}
27
28 \preauthor{}
29 \postauthor{}
30
31 \predate{}
32 \postdate{}
```

\LWR@maketitlesetup Patches \thanks macros.

```
33 \renewcommand*{\LWR@maketitlesetup}{%
```

Redefine the footnote mark:

```
34 \def\@makefnmark{\textsuperscript{\@thefnmark}}
```

```
\thefootnote \Rightarrow \nameuse{arabic}{footnote}, or
\thefootnote \Rightarrow \nameuse{fnsymbol}{footnote}
```

Redefine the footnote text:

```
35 \long\def\@makefntext##1{%
```

Make the footnote mark and some extra horizontal space for the tags:

```
36 \makethanksmark~%
```

```
\makethanksmark \Rightarrow \thanksfootmark \Rightarrow \tamark \Rightarrow
\@thefnmark \Rightarrow \itshape a (or similar)
```

Print the text:

```
37 ##1%
38 }% \makefntext
39 }
```

\thanksfootmark

```
40 \renewcommand{\thanksfootmark}{%
41 %   \hb@xt@\thanksmarkwidth{\hfil\normalfont%
42 %     \thanksscript{%
43 %       \thanksfootpre \tmark \thanksfootpost%
44 %     }%
45 %   }%
46 }
```

\maketitle HTML mode. Creates an HTML titlepage div and typesets the title, etc.

Code from the `titling` package is adapted, simplified, and modified for HTML output.

```
47 \renewcommand*{\maketitle}{%
```

An HTML titlepage <div> is used for all classes.

```
48 \begin{titlepage}
```

Select which kind of footnote marks to use:

```
49 \@bsmarkseries
```

Set up special patches:

```
50 \LWR@maketitlesetup
```

Typeset the title, etc:

```
51 \@maketitle
```

Immediately generate any \thanks footnotes:

```
52 \LWR@stoppars\@thanks\LWR@startpars
```

Close the HTML titlepage div:

```
53 \end{titlepage}
```

Reset the footnote counter:

```
54 \@bscontmark
55 }
```

\@maketitle Typesets the title, etc. Patched for HTML.

```

56 \DeclareDocumentCommand{\@maketitle}{}{%
57     \maketitlehooka
58     {
59         \LWR@stopars\LWR@htmltag{\LWR@tagtitle}%
60         \@bspretitle \@title \@bsposttitle%
61         \LWR@htmltag{\LWR@tagtitleend}\LWR@startpars%
62     }
63     \maketitlehookb
64     {
65         \begin{BlockClass}{author}
66         \renewcommand{\and}{%
67             \end{BlockClass}%
68             \begin{BlockClass}{oneauthor}%
69         }
70         \begin{BlockClass}{oneauthor}%
71         \@bspreauthor \@author \@bspostauthor%
72         \end{BlockClass}%
73         \end{BlockClass}%
74     }
75     \maketitlehookc
76     {
77         \begin{BlockClass}{titledate}%
78         \@bspredate \@date \@bspostdate%
79         \end{BlockClass}%
80     }
81     \maketitlehookd
82 }
```

\LWR@titlingmaketitle \maketitle for use inside an HTML titlingpage environment.

```
83 \renewcommand*{\LWR@titlingmaketitle}{%
```

Keep pending footnotes out of the title block:

```
84 \LWR@stopars \@thanks \LWR@startpars
```

Select which kind of footnote marks to use:

```
85 \@bsmarkseries
```

Set up special patches:

```
86 \LWR@maketitlesetup
```

Typeset the title, etc:

```
87 \@maketitle
```

Immediately generate any \thanks footnotes:

```
88 \LWR@stopars \@thanks \LWR@startpars
```

Reset the footnote counter:

```
89 \@bscontmark  
90 }
```

```
\thanksmarkseries {\langle series \rangle}
```

Sets the type of footnote marks used by \thanks, where type is ‘arabic’, ‘roman’, ‘fn-symbol’, etc.

```
91 \renewcommand{\thanksmarkseries}[1]{%  
92 \def\@bsmarkseries{\renewcommand{\thefootnote}{\@nameuse{#1}{footnote}}}%  
93 }
```

Set default titlepage thanks footnote marks. See section 66.7.

```
94 \@ifclassloaded{memoir}{  
95   \thanksmarkseries{arabic}  
96 }{% not memoir  
97 \iftitlepage  
98   \thanksmarkseries{arabic}  
99 \else  
100   \thanksmarkseries{fnsymbol}  
101 \fi  
102 }% not memoir
```

File 429 **l warp-tocbasic.sty**

§ 529 Package **tocbasic**

(Emulates or patches code by MARKUS KOHM.)

Pkg tocbasic tocbasic is nullified for l warp.

This package may be loaded standalone, but is also loaded automatically if koma-script classes are in use. \DeclareDocumentCommand is used to overwrite the koma-script definitions.

for HTML output: 1 \LWR@ProvidesPackagePass{tocbasic}[2018/12/30]

```
2 \DeclareDocumentCommand{\usetocbasicnumberline}{o}{}  
3 \DeclareDocumentCommand{\DeclareTOCStyleEntry}{o m m}{}  
4 \DeclareDocumentCommand{\DeclareTOCStyleEntries}{o m m}{}  
5 \DeclareDocumentCommand{\DeclareTOCEntryStyle}{m o m}{}  
6 \DeclareDocumentCommand{\DefineTOCEntryOption}{m o m}{}  
7 \DeclareDocumentCommand{\DefineTOCEntryBooleanOption}{m o m m m}{}  
8 \DeclareDocumentCommand{\DefineTOCEntryCommandOption}{m o m m m}{}  
9 \DeclareDocumentCommand{\DefineTOCEntryIfOption}{m o m m m}{}  
10 \DeclareDocumentCommand{\DefineTOCEntryLengthOption}{m o m m m}{}  
11 \DeclareDocumentCommand{\DefineTOCEntryNumberOption}{m o m m m}{}  
12 \DeclareDocumentCommand{\CloneTOCEntryStyle}{m m}{}  
13 \end{document}
```

```
13 \DeclareDocumentCommand{\TOCEntryStyleInitCode}{m m}{}{}
14 \DeclareDocumentCommand{\TOCEntryStyleStartInitCode}{m m}{}{}
```

File 430 **lwarf-tocbibind.sty**

§ 530 Package **tocbibind**

(Emulates or patches code by PETER WILSON.)

Pkg **tocbibind** **tocbibind** is patched for use by **lwarf**.

placement and toc options An index may be placed inline with other HTML text, or on its own HTML page:

Pkg **makeidx** **Inline, with a manual toc entry:**

A commonly-used method to introduce an index in a L^AT_EX document:

```
\cleardoublepage
\phantomsection
\addcontentsline{toc}{section}{\indexname} or chapter
\printindex
```

Pkg **makeidx** **On its own HTML page, with a manual toc entry:**

```
\begin{warpprint}
\cleardoublepage
\phantomsection
\addcontentsline{toc}{section}{\indexname} or chapter
\end{warpprint}
\ForceHTMLPage
\ForceHTMLTOC
\printindex
```

Pkg **tocbibind** **Inline, with an automatic toc entry:**

The **tocbibind** package may be used to automatically place an entry in the toc.

```
\usepackage[nottoc]{tocbibind}
...
\cleardoublepage
\phantomsection % to fix print-version index link
\printindex
```

Pkg **tocbibind** **On its own HTML page, with an automatic toc entry:**

```
\usepackage[nottoc]{tocbibind}
...
\cleardoublepage
\phantomsection % to fix print-version index link
\ForceHTMLPage
\printindex
```

Opt [tocbibind] numindex **numbered index section** Use the **tocbibind numindex** option to generate a numbered index. Without this option, the index heading has no number.

Other packages, such as `imakeidx`, may also have options for including the index in the Table of Contents.

```
for HTML output: 1 \let\simplechapterdelim\relax
2
3 \LWR@ProvidesPackagePass{tocbibind}[2010/10/13]

4 \renewenvironment{theindex}%
5 {%
6     \if@bibchapter
7         \if@donumindex
8             \chapter*{\indexname}
9         \else
10            \if@dotocind
11                \chapter*{\indexname}
12                \addcontentsline{toc}{chapter}{\LWR@isolate{\indexname}}
13            \else
14                \chapter*{\indexname}
15            \fi
16        \fi
17    \else
18        \if@donumindex
19            \section*{\indexname}
20        \else
21            \if@dotocind
22                \section*{\indexname}
23                \addcontentsline{toc}{@tocextra}{\LWR@isolate{\indexname}}
24            \else
25                \section*{\indexname}
26            \fi
27        \fi
28    \fi
29 \let\item\LWR@indexitem%
30 \let\subitem\LWR@indexsubitem%
31 \let\subsubitem\LWR@indexsubsubitem%
32 }{}
```

The following code is shared by `anonchap`.

```
33 \DeclareDocumentCommand{\simplechapter}{O{\emptyset}}{%
34     \def\@chapcntformat##1{%
35         #1\csname the##1\endcsname\simplechapterdelim\quad%
36     }%
37 }
38
39 \DeclareDocumentCommand{\restorechapter}{()}{%
40 \let\@chapcntformat\@secCntFormat%
41 }
```

File 431 l warp-toctdata.sty

§ 531 Package **tocdata**

(Emulates or patches code by BRIAN DUNN.)

Pkg tocdata tocdata is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{tocdata}[2019/07/06]

```
2 \renewcommand*\LWR@maybetocdata[]{%
3   \ifempty{\TD@thistocdata}{}{%
4     \quad \InlineClass{authorartist}{\tocdataformat{\TD@thistocdata}}%
5     \def\TD@thistocdata{}%
6   }%
7 }

8 \renewrobustcmd{\tocdatapartprint}[4]
9 {%
10   \InlineClass{authorartist}{%
11     \quad \qquad --- %
12     \TOptionalnameprint{\#1}\TOptionalnameprint{\#2}\#3\#4%
13   }%
14 }
15
16 \@ifundefined{chapter}{}{%
17   \let\tocdatachapterprint\tocdatapartprint
18 }
19 \let\tocdatasectionprint\tocdatapartprint
20 \let\tocdatasubsectionprint\tocdatapartprint
21
22 \newcommand*\LWR@TD@settextalign[1]{%
23   \def\LWR@TD@textalign{justify}%
24   \ifcsstring{\TD@#1align}{\centering}%
25     {\def\LWR@TD@textalign{center}}%
26     {}%
27   \ifcsstring{\TD@#1align}{\raggedleft}%
28     {\def\LWR@TD@textalign{right}}%
29     {}%
30   \ifcsstring{\TD@#1align}{\raggedright}%
31     {\def\LWR@TD@textalign{left}}%
32     {}%
33 }
34
35 \renewcommand{\TDArtistauthorprint}[5]{%
36   \LWR@TD@settextalign{\#1}%
37   \begin{BlockClass}[text-align:\LWR@TD@textalign]{floatnotes}%
38     \InlineClass{authorartist}{\TOptionalnameprint{\#2}\TOptionalnameprint{\#3}\#4\#5}%
39   \end{BlockClass}%
40 }
```

```

41
42 \newcommand*{\LWR@TD@setnamealign}[1]{%
43   \def\LWR@TD@textalign{justify}%
44   \ifcsstring{TD@#1textalign}{\centering}%
45     {\def\LWR@TD@textalign{center}}%
46     {}%
47   \ifcsstring{TD@#1textalign}{\raggedleft}%
48     {\def\LWR@TD@textalign{right}}%
49     {}%
50   \ifcsstring{TD@#1textalign}{\raggedright}%
51     {\def\LWR@TD@textalign{left}}%
52     {}%
53 }
54
55 \renewcommand{\TDArtistauthortextprint}[2]{%
56   \LWR@TD@setnamealign{#1}%
57   \begin{BlockClass}[text-align:\LWR@TD@textalign]{floatnotes}%
58   #2%
59   \end{BlockClass}%
60 }

```

File 432 **l warp-tocenter.sty**

§ 532 Package **tocenter**

Pkg **tocenter** **tocenter** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{tocenter}[2004/12/09]

```

2 \NewDocumentCommand{\ToCenter}{s o m m}{}
3 \NewDocumentCommand{\FromMargins}{s o m m m m}{}

```

File 433 **l warp-tocloft.sty**

§ 533 Package **tocloft**

(Emulates or patches code by PETER WILSON.)

Pkg **tocloft** **tocloft** is emulated. Most user options and macros are ignored and disabled. **\newlistof** and **\cftchapterprecis** are supported.

Pkg **tocloft** If using **tocloft** with **tocbibind**, **anonchap**, **fncychap**, or other packages which change chapter title formatting, load **tocloft** with its **titles** option, which tells **tocloft** to use standard L^AT_EX commands to create the titles, allowing other packages to work with it.

Discard all options for **l warp-tocloft**:

for HTML output: 1 \LWR@ProvidesPackageDrop{tocloft}[2017/08/31]

⚠ **tocloft & other packages**

```
\tocloftpagestyle {⟨style⟩}
2 \newcommand{\tocloftpagestyle}[1]{}

\cftmarktoc
3 \newcommand*{\cftmarktoc}{} 

\cfttoctitlefont
4 \newcommand*{\cfttoctitlefont}{} 

\cftaftertoctitle
5 \newcommand*{\cftaftertoctitle}{} 

6 \newlength{\cftbeforetoctitleskip}
7 \newlength{\cftaftertoctitleskip}

\cftmarklof
8 \newcommand*{\cftmarklof}{} 

\cftloftitlefont
9 \newcommand*{\cftloftitlefont}{} 

\cftafterloftitle
10 \newcommand*{\cftafterloftitle}{} 

11 \newlength{\cftbeforeloftitleskip}
12 \newlength{\cftafterloftitleskip}

\cftmarklot
13 \newcommand*{\cftmarklot}{} 

\cftlottitlefont
14 \newcommand*{\cftlottitlefont}{} 

\cftafterlottitle
15 \newcommand*{\cftafterlottitle}{} 

16 \newlength{\cftbeforelottitleskip}
17 \newlength{\cftafterlottitleskip}
```

```

\cftdot
18 \providecommand*\cftdot{.}

\cftdotsep
19 \providecommand*\cftdotsep{1}

\cftnodots
20 \providecommand*\cftnodots{5000}

\cftdotfill {⟨sep⟩}
21 \providecommand{\cftdotfill}[1] {}

\cftsetpnumwidth {⟨length⟩}
22 \DeclareDocumentCommand{\cftsetpnumwidth}{m} {}

\cftsetrmarg {⟨length⟩}
23 \DeclareDocumentCommand{\cftsetrmarg}{m} {}

\cftpnumalign {⟨alignment⟩}
24 \DeclareDocumentCommand{\cftpnumalign}{m} {}

25 \LWR@providelength{\cftparskip}

```

The part-related items are also provided by memoir:

```

26 \LWR@providelength{\cftbeforeparts skip}
27 \LWR@providelength{\cftpartindent}
28 \LWR@providelength{\cftpnumwidth}
29 \providecommand*\cftpartfont{}
30 \providecommand*\cftpartpresnum{}
31 \providecommand*\cftpartaftersnum{}
32 \providecommand*\cftpartaftersnumb{}
33 \providecommand*\cftpartleader{}
34 \providecommand*\cftpartdotsep{1}
35 \providecommand*\cftpartpagefont{}
36 \providecommand*\cftpartafterpnum{}

```

memoir uses the full name “chapter” instead of “chap”:

```

37 \LWR@providelength{\cftbeforechapskip}
38 \LWR@providelength{\cftchapindent}
39 \LWR@providelength{\cftchapnumwidth}
40 \newcommand*\cftchapfont{}
41 \newcommand*\cftchappresnum{}
42 \newcommand*\cftchapaftersnum{}
43 \newcommand*\cftchapaftersnumb{}

```

```
44 \newcommand*{\cftchapleader}{}  
45 \newcommand*{\cftchapdotsep}{1}  
46 \newcommand*{\cftchappagefont}{}  
47 \newcommand*{\cftchapafterpnum}{}  
48 \LWR@providelength{\cftbeforesecskip}  
49 \LWR@providelength{\cftsecindent}  
50 \LWR@providelength{\cftsecnumwidth}  
51 \newcommand*{\cftsecfont}{}  
52 \newcommand*{\cftsecpresnum}{}  
53 \newcommand*{\cftsecaftersnum}{}  
54 \newcommand*{\cftsecaftersnumb}{}  
55 \newcommand*{\cftsecleader}{}  
56 \newcommand*{\cftsecdotsep}{1}  
57 \newcommand*{\cftsecpagefont}{}  
58 \newcommand*{\cftsecafterpnum}{}  
59 \LWR@providelength{\cftbeforesubsecskip}  
60 \LWR@providelength{\cftsubsecindent}  
61 \LWR@providelength{\cftsubsecnumwidth}  
62 \newcommand*{\cftsubsecfont}{}  
63 \newcommand*{\cftsubsecpresnum}{}  
64 \newcommand*{\cftsubsecaftersnum}{}  
65 \newcommand*{\cftsubsecaftersnumb}{}  
66 \newcommand*{\cftsubsecleader}{}  
67 \newcommand*{\cftsubsecdotsep}{1}  
68 \newcommand*{\cftsubsecpagefont}{}  
69 \newcommand*{\cftsubsecafterpnum}{}  
70 \LWR@providelength{\cftbeforesubsubsecskip}  
71 \LWR@providelength{\cftsubsubsecindent}  
72 \LWR@providelength{\cftsubsubsecnumwidth}  
73 \newcommand*{\cftsubsubsecfont}{}  
74 \newcommand*{\cftsubsubsecpresnum}{}  
75 \newcommand*{\cftsubsubsecaftersnum}{}  
76 \newcommand*{\cftsubsubsecaftersnumb}{}  
77 \newcommand*{\cftsubsubsecleader}{}  
78 \newcommand*{\cftsubsubsecdotsep}{1}  
79 \newcommand*{\cftsubsubsecpagefont}{}  
80 \newcommand*{\cftsubsubsecafterpnum}{}  
81 \LWR@providelength{\cftbeforeparaskip}  
82 \LWR@providelength{\cftparrayindent}  
83 \LWR@providelength{\cftparraynumwidth}  
84 \newcommand*{\cftparrayfont}{}  
85 \newcommand*{\cftparraypresnum}{}  
86 \newcommand*{\cftparrayaftersnum}{}  
87 \newcommand*{\cftparrayaftersnumb}{}  
88 \newcommand*{\cftparrayleader}{}  
89 \newcommand*{\cftparraydotsep}{1}  
90 \newcommand*{\cftparraypagefont}{}  
91 \newcommand*{\cftparrayafterpnum}{}  
92 \newcommand*{\cftparraydotsep}{1}
```

The following do not appear in memoir:

```
92 \LWR@provide length{\cftbefore subpara skip}
93 \LWR@provide length{\cftsub para indent}
94 \LWR@provide length{\cftsub para num width}
95 \newcommand*{\cftsub para font} {}
96 \newcommand*{\cftsub para presnum} {}
97 \newcommand*{\cftsub para after snum} {}
98 \newcommand*{\cftsub para after snum b} {}
99 \newcommand*{\cftsub para leader} {}
100 \newcommand*{\cftsub para dotsep}{1}
101 \newcommand*{\cftsub para page font} {}
102 \newcommand*{\cftsub para after pnum} {}

103 \LWR@provide length{\cft before fig skip}
104 \LWR@provide length{\cftfig indent}
105 \LWR@provide length{\cftfig num width}
106 \newcommand*{\cftfig font} {}
107 \newcommand*{\cftfig presnum} {}
108 \newcommand*{\cftfig after snum} {}
109 \newcommand*{\cftfig after snum b} {}
110 \newcommand*{\cftfig leader} {}
111 \newcommand*{\cftfig dotsep}{1}
112 \newcommand*{\cftfig page font} {}
113 \newcommand*{\cftfig after pnum} {}

114 \LWR@provide length{\cft before subfig skip}
115 \LWR@provide length{\cftsub fig indent}
116 \LWR@provide length{\cftsub fig num width}
117 \newcommand*{\cftsub fig font} {}
118 \newcommand*{\cftsub fig presnum} {}
119 \newcommand*{\cftsub fig after snum} {}
120 \newcommand*{\cftsub fig after snum b} {}
121 \newcommand*{\cftsub fig leader} {}
122 \newcommand*{\cftsub fig dotsep}{1}
123 \newcommand*{\cftsub fig page font} {}
124 \newcommand*{\cftsub fig after pnum} {}

125 \LWR@provide length{\cft before tabs skip}
126 \LWR@provide length{\cfttab indent}
127 \LWR@provide length{\cfttab num width}
128 \newcommand*{\cfttab font} {}
129 \newcommand*{\cfttab presnum} {}
130 \newcommand*{\cfttab after snum} {}
131 \newcommand*{\cfttab after snum b} {}
132 \newcommand*{\cfttab leader} {}
133 \newcommand*{\cfttab dotsep}{1}
134 \newcommand*{\cfttab page font} {}
135 \newcommand*{\cfttab after pnum} {}

136 \LWR@provide length{\cft before sub tabs skip}
137 \LWR@provide length{\cftsub tab indent}
138 \LWR@provide length{\cftsub tab num width}
139 \newcommand*{\cftsub tab font} {}
140 \newcommand*{\cftsub tab presnum} {}
141 \newcommand*{\cftsub tab after snum} {}
142 \newcommand*{\cftsub tab after snum b} {}
```

```

143 \newcommand*{\cftsubtableader}(){}
144 \newcommand*{\cftsubtabdotsep}{1}
145 \newcommand*{\cftsubtabpagefont}(){}
146 \newcommand*{\cftsubtabafterpnum} {}

147 \DeclareDocumentCommand{\cftsetindents}{m m m} {}

148 \newcommand{\pagenumbersoff}[1]{}
149 \newcommand{\pagenumberson}[1]{}

\newlistentry [⟨within⟩] {⟨counter⟩} {⟨ext⟩} {⟨level-1⟩}
150 \DeclareDocumentCommand{\newlistentry}{o m m m}
151 {%
152 \LWR@traceinfo{newlistentry #2 #3 #4}%
153 \IfValueTF{#1}%
154 {%
155     \@ifundefined{c@#2}{%
156         \newcounter{#2}[#1]%
157         \expandafter\edef\csname the#2\endcsname{%
158             \expandafter\noexpand\csname the#1\endcsname.\noexpand\arabic{#2}%
159         }%
160     }{}%
161 }%
162 {%
163     \@ifundefined{c@#2}{%
164         \newcounter{#2}%
165     }{}%
166 }%
167 \@namedef{l@#2}##1##2{%
168     \hypertocfloat{1}{#2}{#3}{##1}{##2}%
169     \def\cftwhatismyname{#2}%
170 }%
171 \expandafter\newlength\csname cftbefore#2skip\endcsname%
172 \expandafter\newlength\csname cft#2indent\endcsname%
173 \expandafter\newlength\csname cft#2numwidth\endcsname%
174 \@namedef{cft#2font}{}%
175 \@namedef{cft#2presnum}{}%
176 \@namedef{cft#2aftersnum}{}%
177 \@namedef{cft#2aftersnumb}{}%
178 \@namedef{cft#2leader}{}%
179 \@namedef{cft#2dotsep}{1}%
180 \@namedef{cft#2pagefont}{}%
181 \@namedef{cft#2afterpnum}{}%
182 \@namedef{toclevel@#2}{#4}%
183 \@namedef{cft#2fillnum}{#1}%
184 \LWR@traceinfo{newlistentry done}%
185 }

\newlistof [⟨within⟩] {⟨type⟩} {⟨ext⟩} {⟨listofname⟩}

```

Emulated through the `\newfloat` mechanism.

```

186 \DeclareDocumentCommand{\newlistof}{o m m m}
187 {%

```

```

188 \IfValueTF{#1}
189 {\newlistentry[#1]{#2}{#3}{0}}
190 {\newlistentry{#2}{#3}{0}}
191 \@namedef{ext@#2}{#3}
192 \@ifundefined{c@#3depth}{\newcounter{#3depth}}{}
193 \setcounter{#3depth}{1}
194 \@namedef{cftmark#3}{}
195 \@namedef{listof#2}{\listof{#2}{#4}}
196 \@namedef{@cftmake#3title}{}
197 \expandafter\newlength\csname cftbefore#3titleskip\endcsname
198 \expandafter\newlength\csname cftafter#3titleskip\endcsname
199 \@namedef{cft#3titlefont}{}
200 \@namedef{cftafter#3title}{}
201 \@namedef{cft#3prehook}{}
202 \@namedef{cft#3posthook}{}
203 }

\cftchapterprecis {\langle text\rangle}

204 \newcommand{\cftchapterprecis}[1]{%
205   \cftchapterprecishere{#1}
206   \cftchapterprecistoc{#1}
207 \newcommand{\cftchapterprecishere}[1]{%
208   \begin{quote}\textit{#1}\end{quote}}
209 \newcommand{\cftchapterprecistoc}[1]{%
210   \addtocontents{toc}{%
211   \begin{protect}\begin{quote}\#1\end{quote}\end{protect}}
212 }
213 }
214 }

```

File 434 lwarp-tocstyle.sty

§ 534 Package **tocstyle**

Pkg tocstyle tocstyle is ignored.

⚠ Not fully tested! Please send bug reports!

for HTML output: 1 \LWR@ProvidesPackageDrop{tocstyle}[2017/02/23]

```

2 \newcommand*\usetocstyle}[2][]{}}
3 \newcommand*\deactivatetocstyle}[1][]{}}
4 \newcommand*\reactivatetocstyle}[1][]{}}
5 \NewDocumentCommand{\settocfeature}{o o m m}{}}
6 \NewDocumentCommand{\settocstylefeature}{o m m}{}}
7 \NewDocumentCommand{\newtocstyle}{o o m m}{}}
8 \newcommand*\aliastoc}[2]{}}
9 \newcommand*\showtoc}[2][]{}
10 \newcommand{\iftochasdepth}[4]{}}

```

File 435 l warp-todo.sty

§ 535 Package **todo**

(Emulates or patches code by FEDERICO GARCIA.)

Pkg todo todo is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{todo}[2010/03/31]

```
2 \renewcommand\todoitem[2]{%
3     \refstepcounter{todo}%
4     \item[%
5         \HTMLUnicode{2610} \quad
6         \ref{todopage:\thetodo}%
7     ] : {\todoformat\ifx#1\todomark\else\textrm{\#1}\fi}#2%
8     \label{todolbl:\thetodo}%
9 }%
10
11 \renewcommand\doneitem[2]{%
12     \stepcounter{todo}%
13     \item[%
14         \HTMLUnicode{2611} \quad
15         \ref{todopage:\thetodo}%
16     ] \nameuse{@done\the\c@todo}:
17     {\todoformat\ifx#1\todomark\else\textrm{\#1}\fi}#2%
18 }
19
20 \xpatchcmd{\@displaytodo}
21     {\todoformat #1}{\todoformat \textbf{\#1}}{%
22     {\PackageWarning{l warp-todo}{Unable to patch \@displaytodo.}}}
23
24 \xpatchcmd{\@displayfulltodo}
25     {\todoformat #1}{\todoformat \textbf{\#1}}{%
26     {\PackageWarning{l warp-todo}{Unable to patch \@displayfulltodo.}}}
27
28 \patchcmd{\todoenv}{\itshape see text.}{\textit{see text.}}{%
29     {\PackageWarning{l warp-todo}{Unable to patch todoenv.}}}
30
31 \patchcmd{\astodos}{\todoformat #1}{\todoformat \textbf{\#1}}{%
32     {\PackageWarning{l warp-todo}{Unable to patch astodos.}}}
33
34 \AtBeginDocument{
35     \crefname{todo}{todo}{todos}
36     \Crefname{todo}{Todo}{Todos}
37 }
```

File 436 **l warp-todonotes.sty**

§ 536 Package **todonotes**

(Emulates or patches code by HENRIK SKOV MIDTIBY.)

Pkg todonotes todonotes is emulated.

The documentation for todonotes and luatodonotes have an example with a todo inside a caption. If this example does not work it will be necessary to move the todo outside of the caption.

for HTML output

```
1 \LWR@ProvidesPackagePass{todonotes}[2012/07/25]

2 \if@todonotes@disabled
3 \else
4
5 \newcommand{\ext@todo}{\textcolor{red}{#1}}
6
7 \renewcommand{\l@todo}[2]{\hypertocfloat{1}{\textcolor{red}{#1}}{\textcolor{red}{#2}}}

8 \let\LWRTODONOTES@orig@todototoc\todototoc
9
10 \renewcommand*{\todototoc}{%
11 \phantomsection%
12 \LWRTODONOTES@orig@todototoc%
13 }
14
15 \renewcommand{\@todonotes@drawMarginNoteWithLine}{%
16 \fcolorbox{%
17   \todonotes@currentbordercolor}%
18   {\todonotes@currentbackgroundcolor}%
19   {\arabic{\todonotes@numberoftodonotes}}%
20 \marginpar{\todonotes@drawMarginNote}%
21 }
22
23 \renewcommand{\@todonotes@drawInlineNote}{%
24 \fcolorboxBlock{%
25   \todonotes@currentbordercolor}%
26   \todonotes@currentbackgroundcolor}%
27 {%
28   \if@todonotes@authorgiven%
29     \todonotes@author: , %
30   \fi%
31   \todonotes@text%
32 }%
33 }
34
35 \renewcommand{\@todonotes@drawMarginNote}{%
36   \if@todonotes@authorgiven%
```

```
37      \atodonotes@author\par%
38  \fi%
39  \arabic{@todonotes@numberoftodonotes}: %
40  \fcolorbox%
41  {\atodonotes@currentbordercolor}%
42  {\atodonotes@currentbackgroundcolor}%
43  {%
44      \atodonotes@sizecommand%
45      \atodonotes@text %
46  }%
47 }%
48
49 \renewcommand{\atodonotes@drawLineToRightMargin}{}
50
51 \renewcommand{\atodonotes@drawLineToLeftMargin}{}
52
53 \renewcommand{\missingfigure}[2][]{%
54 \setkeys{todonotes}{#1}%
55 \addcontentsline{tdo}{todo}{\atodonotes@MissingFigureText: #2}%
56 \fcolorboxBlock%
57  {\atodonotes@currentbordercolor}%
58  {\atodonotes@currentfigcolor}%
59  {%
60      \setlength{\fboxrule}{4pt}%
61      \fcolorbox{red}{white}{Missing figure} \quad #2%
62  }%
63 }%
64
65 \LetLtxMacro{\LWRTODONOTES@orig@todo}{\todo}
66
67 \RenewDocumentCommand{\todo}{o m}{%
68 \begingroup%
69 \renewcommand*\phantomsection{}%
70 \IfValueTF{#1}{%
71     \LWRTODONOTES@orig@todo[#1]{#2}%
72 }{%
73     \LWRTODONOTES@orig@todo{#2}%
74 }%
75 \endgroup%
76 }%
77
78 \fi% \if@todonotes@disabled
```

File 437 **lwarf-topcapt.sty**

§ 537 Package **topcapt**

Pkg topcapt **topcapt** is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{topcapt}[2004/12/11]

2 \LetLtxMacro{\topcaption}{\caption}

File 438 l warp-tram.sty**§ 538 Package tram**

Pkg **tram** **tram** is emulated.

⚠ block only The HTML emulation uses a <div>, which must not appear inside an HTML or an HTML paragraph. For this reason, the **tram** environment should only be used to contain paragraphs inside a **\parbox** or **minipage**. **tram** should not be used to mark up inline text.

To disable **tram**, allowing source compatibility with inline uses:

```
\begin{warpHTML}
\renewenvironment{tram}[1][]{}{}
\end{warpHTML}
```

for HTML output: 1 \LWR@ProvidesPackageDrop{tram}[2013/04/04]

```
2 \newenvironment{tram}[1][]%
3   {\BlockClass[background:lightgray]{tram}}
4   {\endBlockClass}
```

File 439 l warp-transparent.sty**§ 539 Package transparent**

(Emulates or patches code by HEIKO OBERDIEK.)

Pkg **transparent** **transparent** is emulated. **\texttransparent** works for inline objects. **\transparent** only works for **\includegraphics**.

⚠ Not X E T A X ! Note that **transparent** does not work with X E T A X !

for HTML output: Discard all options for **l warp-transparent**:

```
1 \LWR@ProvidesPackagePass{transparent}[2019/11/29]
2 \newcommand*{\LWR@HTML@transparent}[1]{\edef\LWR@opacity{\#1}}
3
4 \LWR@formatted{transparent}
5
6
7 \newcommand*{\LWR@HTML@texttransparent}[2]{%
8 \begingroup%
9 \transparent{\#1}%
10 \InlineClass[opacity: #1]{transparent}{#2}%
11 \endgroup%
```

```
12 }
13
14 \LWR@formatted{texttransparent}
```

File 440 l warp-trimclip.sty**§ 540 Package trimclip**

Pkg trimclip trimclip is ignored.

for HTML output 1 \LWR@ProvidesPackageDrop{trimclip}[2018/04/08]

The third argument, the text, is not touched. This allows `\bgroup / \egroup`, and verbatim content.

```
2 \csdef{trimbox}{\@ifstar\@gobble\@gobble}
3 \csletcs{trimbox*}{trimbox}
4 \def\endtrimbox{}
5 \csletcs{endtrimbox*}{endtrimbox}
6
7 \csletcs{clipbox}{trimbox}
8 \csletcs{clipbox*}{trimbox}
9 \csletcs{endclipbox}{endtrimbox}
10 \csletcs{endclipbox*}{endtrimbox}
11
12 \csletcs{marginbox}{trimbox}
13 \csletcs{marginbox*}{trimbox}
14 \csletcs{endmarginbox}{endtrimbox}
15 \csletcs{endmarginbox*}{endtrimbox}
```

File 441 l warp-trivfloat.sty**§ 541 Package trivfloat**

(Emulates or patches code by JOSEPH WRIGHT.)

Pkg trivfloat trivfloat is forced to use the built-in l warp emulation for floats.

To create a new float type and change its name:

```
\trivfloat{example}
\renewcommand{\examplename}{Example Name}
\crefname{example}{example}{examples}
\Crefname{example}{Example}{Examples}
```

Discard all options for l warp-trivfloat. This tells trivfloat not to use floatrow or memoir.

```

1 \LWR@ProvidesPackageDrop{trivfloat}[2009/04/23]
2 \LWR@origRequirePackage{trivfloat}

```

\tfl@chapter@fix Nullified at the beginning of the document. Is used by trivfloat to correct float chapter numbers, but is not needed for lwarp.

for HTML output:

```

3 \begin{warpHTML}

4 \AtBeginDocument{\DeclareDocumentCommand{\tfl@chapter@fix}{m m}{}}

5 \end{warpHTML}

```

§ 541.1 Combining \newfloat, \trivfloat, and algorithmicx

for HTML & PRINT:

For both print and HTML output:

- ⚠ When using float, trivfloat, or algorithmicx at the same time, be aware of conflicting file usage. algorithmicx uses .loa. trivfloat by default starts with .loa and goes up for additional floats, skipping .lof and .lot.
- ⚠ When using \newfloat, be sure to manually assign higher letters to the \newfloat files to avoid .loa used by algorithmicx, and any files used by trivfloat. Also avoid using .lof and .lot.
- ⚠ When using \trivfloat, you may force it to avoid conflicting with algorithmicx by starting trivfloat's file extensions with .lob:

```

\makeatletter
\setcounter{tfl@float@cnt}{1} % start trivfloats with .lob
\makeatletter

```

7 \end{warpall}

File 442 lwarp-truncate.sty

§ 542 Package **truncate**

Pkg truncate truncate is ignored.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{truncate}[2001/08/20]

2 \providecommand{\TruncateMarker}{}
3 \newcommand{\truncate}[3][\TruncateMarker]{#3}

```

File 443 l warp-turnthepage.sty**§ 543 Package turnthepage**

Pkg turnthepage turnthepage is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{turnthepage}[2011/03/24]
2 \newcommand{\turnthepage}{}

File 444 l warp-twoup.sty**§ 544 Package twoup**

Pkg twoup twoup is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{twoup}[2007/02/26]
2 \newcommand{\cleartolastpage}{}

File 445 l warp-typearea.sty**§ 545 Package typearea**

(Emulates or patches code by MARKUS KOHM.)

Pkg typearea typearea is emulated.

This package may be loaded standalone, but is also loaded automatically if koma-script classes are in use. \DeclareDocumentCommand is used to overwrite the koma-script definitions.

for HTML output: 1 \LWR@ProvidesPackageDrop{typearea}[2018/03/30]
2 \DeclareDocumentCommand{\typearea}{o m}{}
3 \DeclareDocumentCommand{\recalctypearea}{}{}
4 \@ifundefined{footheight}{\newlength\footheight}{}
5 \DeclareDocumentCommand{\areaset}{o m m}{}
6 \DeclareDocumentCommand{\activateareas}{}{}
7 \DeclareDocumentCommand{\storeareas}{m}{}
8 \DeclareDocumentCommand{\BeforeRestoreareas}{s m}{}
9 \DeclareDocumentCommand{\AfterRestoreareas}{s m}{}
10 \DeclareDocumentCommand{\AfterCalculatingTypearea}{s m}{}
11 \DeclareDocumentCommand{\AfterSettingArea}{s m}{}

File 446 l warp-typicons.sty**§ 546 Package typicons**

(Emulates or patches code by ARTHUR VIGIL, XAVIER DANAUX.)

Pkg typicons typicons is patched for use by l warp.

If \ticon is used, the name of the icon is used in the alt tag. Otherwise, for each of the individual icon macros, a generic alt tag is used.

for HTML output: 1 \LWR@ProvidesPackagePass{typicons}[2015/05/20]

```
2 \LetLtxMacro{\LWR@orig@symbol}{\symbol}
3
4 \let\LWR@orig@typicon@TI\TI
5
6 \newcommand*{\LWR@typicon@symbol}[1]{%
7   \begin{lateximage}*[typicon][typicon#1]%
8   \begingroup%
9   \LWR@orig@typicon@TI%
10  \LWR@orig@symbol{#1}%
11  \endgroup%
12  \end{lateximage}%
13 }
14
15 \renewcommand*{\TI}{%
16   \LetLtxMacro{\symbol}{\LWR@typicon@symbol}%
17 }
18
19 \renewcommand*{\ticon}[1]{%
20 {%
21   \begin{lateximage}*[#1 icon][typicon#1]%
22   \TI\csname ticon@\#1\endcsname%
23   \end{lateximage}%
24 }
```

File 447 l warp-ulem.sty**§ 547 Package ulem**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg ulem Patched for use by l warp.

for HTML output: Use the original package:

1 \LWR@ProvidesPackagePass{ulem}[2012/05/18]

Basic markup commands, using css:

```
2 \NewDocumentCommand{\LWR@HTML@uline}{+m}{%
3     \InlineClass%
4         (text-decoration:underline; text-decoration-skip: auto)%
5         {uline}{\LWR@isolate{#1}}%
6 }
7 \LWR@formatted{uline}
8
9 \NewDocumentCommand{\LWR@HTML@uuline}{+m}{%
10    \InlineClass%
11    (%
12        text-decoration:underline; text-decoration-skip: auto;%
13        text-decoration-style:double%
14    )%
15    {uuline}{\LWR@isolate{#1}}%
16 }
17 \LWR@formatted{uuline}
18
19 \NewDocumentCommand{\LWR@HTML@uwave}{+m}{%
20    \InlineClass%
21    (%
22        text-decoration:underline; text-decoration-skip: auto;%
23        text-decoration-style:wavy%
24    )%
25    {uwave}{\LWR@isolate{#1}}%
26 }
27 \LWR@formatted{uwave}
28
29 \NewDocumentCommand{\LWR@HTML@sout}{+m}{%
30    \InlineClass%
31        (text-decoration:line-through)%
32        {sout}{\LWR@isolate{#1}}%
33 }
34 \LWR@formatted{sout}
35
36 \NewDocumentCommand{\LWR@HTML@xout}{+m}{%
37    \InlineClass%
38        (text-decoration:line-through)%
39        {xout}{\LWR@isolate{#1}}%
40 }
41 \LWR@formatted{xout}
42
43 \NewDocumentCommand{\LWR@HTML@dashuline}{+m}{%
44    \InlineClass%
45    (%
46        text-decoration:underline;%
47        text-decoration-skip: auto;%
48        text-decoration-style:dashed%
49    )%
50    {dashuline}{\LWR@isolate{#1}}%
51 }
52 \LWR@formatted{dashuline}
53
54 \NewDocumentCommand{\LWR@HTML@dotuline}{+m}{%
```

```

55 \InlineClass%
56 (%
57   text-decoration:underline;%
58   text-decoration-skip: auto;%
59   text-decoration-style: dotted%
60 )%
61 {\dotuline}{\LWR@isolate{\#1}}%
62 }
63 \LWR@formatted{\dotuline}

```

Nullified/emulated macros:

```

64 \NewDocumentCommand{\LWR@HTML@markoverwith}{m}{}
65 \LWR@formatted{\markoverwith}
66
67 \NewDocumentCommand{\LWR@HTML@ULon}{+m}{\uline{\#1}\egroup}
68 \LWR@formatted{\ULon}

```

File 448 **l warp-umoline.sty**

§ 548 Package **umoline**

(Emulates or patches code by HIROSHI NAKASHIMA.)

Pkg umoline umoline is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{umoline}[2000/07/11]

```

2 \newcommand*{\LWR@HTML@Underline}[1]{%
3   \InlineClass{\uline}{\#1}%
4 }
5 \LWR@formatted{\Underline}
6
7 \newcommand*{\LWR@HTML@Midline}[1]{%
8   \InlineClass{\sout}{\#1}%
9 }
10 \LWR@formatted{\Midline}
11
12 \newcommand*{\LWR@HTML@Overline}[1]{%
13   \InlineClass{\oline}{\#1}%
14 }
15 \LWR@formatted{\Overline}
16
17 \newcommand*{\LWR@HTML@UMOLine}[2]{%
18   \InlineClass{\uline}{\#2}%
19 }
20 \LWR@formatted{\UMOLine}
21
22 \NewDocumentCommand{\LWR@HTML@UMOspace}{s m o}{\hspace*{\#2}}
23 \LWR@formatted{\UMOspace}
24
25 \NewDocumentCommand{\LWR@HTML@UMOnewline}{s}{\newline}
26 \LWR@formatted{\UMOnewline}

```

File 449 l warp-underscore.sty**§ 549 Package underscore**

Pkg underscore underscore is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{underscore}[2006/09/13]

File 450 l warp-unicode-math.sty**§ 550 Package unicode-math**

(Emulates or patches code by WILL ROBERTSON.)

Pkg unicode-math unicode-math is supported as-is for HTML with svgmath.

For MATHJAX, many characters may not be read correctly, such as bold letters, and so are not read correctly by *pdftotext* for HTML. Symbol font commands are emulated, but not all combinations are supported by MathJax.

for HTML output: 1 \LWR@ProvidesPackagePass{unicode-math}[2019/09/26]

```
2 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{unicode-math}
4
5 % Not all are possible in MathJax.
6 \CustomizeMathJax{\let\symnormal\mathit}
7 \CustomizeMathJax{\let\symliteral\mathrm}
8 \CustomizeMathJax{\let\symbb\mathbb}
9 \CustomizeMathJax{\let\sympbit\mathbb}% not italic
10 \CustomizeMathJax{\let\symcal\mathcal}
11 \CustomizeMathJax{\let\symscr\mathscr}
12 \CustomizeMathJax{\let\symfrak\mathfrak}
13 \CustomizeMathJax{\let\symsfup\mathsf}
14
15 % \CustomizeMathJax{\let\symsfit\mathit}% not sans
16 \CustomizeMathJax{\newcommand{\symsfit}[1]{%
17   \mmlToken{mi}[mathvariant="sans-serif-italic"]{#1}}%
18 }
19
20 % \CustomizeMathJax{\let\symbfsf\mathbf}% not sans
21 \CustomizeMathJax{\newcommand{\symbfsf}[1]{%
22   \mmlToken{mi}[mathvariant="bold-sans-serif"]{#1}}%
23 }
24
25 \CustomizeMathJax{\let\symbfup\mathbf}
26 \CustomizeMathJax{\newcommand{\symbfit}[1]{\boldsymbol{#1}}}
27 \CustomizeMathJax{\let\symbfcal\mathcal}% not bold
```

```

28
29 \CustomizeMathJax{\let\symbol{scr}\mathscr}{% not bold
30 % \CustomizeMathJax{\newcommand{\symbol{scr}}[1]{%
31 %   \mmlToken{mi}[mathvariant="math-bold-script"]{#1}}
32 % }
33
34 \CustomizeMathJax{\let\symbol{ffrak}\mathfrak}{% not bold
35 % \CustomizeMathJax{\newcommand{\symbol{ffrak}}[1]{%
36 %   \mmlToken{mi}[mathvariant="math-bold-fraktur"]{#1}}
37 % }
38
39 % \CustomizeMathJax{\let\symbol{fsup}\mathbf}{% not sans
40 \CustomizeMathJax{\newcommand{\symbol{fsup}}[1]{%
41   \mmlToken{mi}[mathvariant="bold-sans-serif"]{#1}}
42 }
43
44 % \CustomizeMathJax{\let\symbol{fsfit}\mathit}{% not bold nor sans
45 \CustomizeMathJax{\newcommand{\symbol{fsfit}}[1]{%
46   \mmlToken{mi}[mathvariant="sans-serif-bold-italic"]{#1}}
47 }
48
49 % Duplicates below are commented out.
50 \CustomizeMathJax{\let\symbol{up}\mathrm}
51 \CustomizeMathJax{\let\symbol{bf}\mathbf}{% \symbol{up} defined above
52 \CustomizeMathJax{\let\symbol{mit}\mathit}
53 % \CustomizeMathJax{\let\symbol{bf}\mathit}{% not bold
54 \CustomizeMathJax{\let\symbol{msf}\mathsf}
55 % \CustomizeMathJax{\let\symbol{fsup}\mathbf}{% not sans
56 % \CustomizeMathJax{\let\symbol{fsfit}\mathit}{% not sans
57 % \CustomizeMathJax{\let\symbol{fsfit}\mathit}{% not bold nor sans
58 \CustomizeMathJax{\let\symbol{tt}\mathit}
59 % \CustomizeMathJax{\let\symbol{bb}\mathbb}
60 % \CustomizeMathJax{\let\symbol{bb}\mathit}{% not italic
61 % \CustomizeMathJax{\let\symbol{scr}\mathscr}
62 % \CustomizeMathJax{\let\symbol{scr}\mathit}{% not bold
63 % \CustomizeMathJax{\let\symbol{frak}\mathfrak}
64 \CustomizeMathJax{\let\symbol{ffrac}\mathbf{frac}}
65 \end{warpMathJax}

```

File 451 **lwarf-units.sty**

§ 551 Package **units**

(Emulates or patches code by AXEL REICHERT.)

Pkg units **units** is patched for use by **lwarf**.

Values are not styled by css, and take the style of the surrounding HTML text.

Units are styled according to the print version, so they will be forced to upright roman in HTML if the print version does so. It may be necessary to adjust the document's body css to match the print version.

for HTML output:

```

1 \LWR@ProvidesPackagePass{units}[1998/08/04]

2 \DeclareRobustCommand*\LWR@HTML@unit}[2][]{%
3 \ifblank{#1}%
4   {\LWR@textcurrentfont{#2}}%
5   {%
6     #1%
7     \ifthenelse{\boolean{B@UnitsLoose}}{}{,}%
8     \LWR@textcurrentfont{#2}%
9   }%
10 }
11 \LWR@formatted{unit}

12 \DeclareRobustCommand*\LWR@HTML@unitfrac}[3][]{%
13 \ifblank{#1}%
14   {%
15     \nicefrac{#2}{#3}%
16   }%
17   {%
18     #1%
19     \ifthenelse{\boolean{B@UnitsLoose}}{}{,}%
20     \nicefrac{#2}{#3}%
21   }%
22 }
23
24 \LWR@formatted{unitfrac}

```

For Mathjax:

```

25 \begin{warpMathJax}
26 \CustomizeMathJax{\newcommand{\unit}[2][]{\#1 \#2}}
27 \CustomizeMathJax{\newcommand{\unitfrac}[3][]{\#1 \#2/\#3}}
28 \end{warpMathJax}

```

File 452 lwarf-unitsdef.sty

§ 552 Package **unitsdef**

(Emulates or patches code by PATRICK HAPPEL.)

Pkg unitsdef unitsdef is patched for use by lwarf.

for HTML output:

```

1 \LWR@ProvidesPackagePass{unitsdef}[2005/01/04]

2 \renewcommand{\unitvaluesep}{,}
3
4 \renewcommand{\unittimes}{\@setunitsepfalse\HTMLunicode{22c5}\cdot}
5
6 \renewunit{\arcmin}{%
7   \ifnumcomp{\value{\LWR@lateximagedepth}}{0}{%
8     {\ensuremath{{}^{\prime}}}}%
9     {\HTMLunicode{2032}}% prime
}

```

```
10 }
11
12 \renewunit{\arcsec}{%
13     \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}{%
14         {\ensuremath{{}^{\prime}\!\!{}^{\prime}}}%
15         {\HTMLunicode{2033}}% dbl prime
16     }
17
18 \renewrobustcmd{\SI}[2]{%
19     \begingroup%
20     \let\unit@xspace\relax%
21     \unitSIdef\selectfont%
22     \LWR@textcurrentfont{\#1#2}% l warp
23     \endgroup%
24 }
```

File 453 **l warp-upref.sty**

§ 553 Package **upref**

Pkg upref upref is ignored.

for HTML output: Discard all options for l warp-upref:

```
1 \LWR@ProvidesPackageDrop{upref}[2007/03/14]
```

File 454 **l warp-url.sty**

§ 554 Package **url**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg url url is patched for use by l warp.

for HTML output:

```
1 \LetLtxMacro\LWR@url@orig@url\url
2
3 \LWR@ProvidesPackagePass{url}[2013/09/16]

4 \renewcommand*\Url@FormatString}{%
5     \expandafter\LWR@url@orig@url\expandafter{\Url@String}}%
6 }
```

File 455 **l warp-uspace.sty**

§ 555 Package **uspace**

Pkg uspace uspace is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{uspace}[2016/11/06]

File 456 **l warp-verse.sty**

§ 556 Package **verse**

(Emulates or patches code by PETER WILSON.)

Pkg **verse** **verse** is supported and patched by l warp.

for HTML output: Pass all options for l warp-verse:

1 \LWR@ProvidesPackagePass{verse}[2009/09/04]

When using **verse** or **memoir**, always place a \\ after each line.

\attrib The documentation for the **verse** and **memoir** packages suggest defining an **\attrib** command, which may already exist in current documents, but it will only work for print output. l warp provides **\attribution**, which works for both print and **HTML** output. To combine the two so that **\attrib** is used for print and **\attribution** is used for **HTML**:

```
\begin{warpHTML}
\let\attrib\attribution
\end{warpHTML}
```

Len \vleftskip These lengths are used by **verse** and **memoir** to control the left margin, and they may already be set by the user for print output. New lengths **\HTMLvleftskip** and **\HTMLleftmargini** are provided to control the margins in **HTML** output. These new lengths may be set by the user before any **verse** environment, and persist until they are manually changed again. One reason to change **\HTMLleftmargini** is if there is a wide **\flagverse** in use, such as the word “Chorus”, in which case the value of **\HTMLleftmargini** should be set to a wide enough length to contain “Chorus”. The default is wide enough for a stanza number.

⚠ spacing Horizontal spacing relies on **pdftotext**’s ability to discern the layout (-layout option) of the text in the **HTML**-tagged PDF output. For some settings of **\HTMLleftmargini** or **\HTMLleftskip** the horizontal alignment may not work out exactly, in which case a label may be shifted by one space.

Env **verse** The **verse** environment will be placed inside a **HTML <pre>**.

```
2 \AfterEndPreamble{
3 \LWR@traceinfo{Patching verse.}
```

At the beginning of the **verse** environment:

```
4 \AtBeginEnvironment{verse}
5 {%
```

Use the original list environment inside a <pre> to attempt to preserve formatting.

```

6 \LWR@restoreoriglists%

Pkg  verse      The verse or memoir packages can place stanza numbers to the left with their
Cls   memoir    \flagverse command. Do not allow them to go into the left margin, which would
\flagverse          cause pdfcrop to crop the entire page further to the left:

Len  \vleftskip
    7 \ifdef{\vleftskip}{%
    8 \setlength{\vleftskip}{\HTMLvleftskip}
    9 \setlength{\leftmargini}{\HTMLleftmargini}
   10 }{%
   11 \LWR@forcenewpage
   12 \LWR@atbeginverbatim{3}{verse}%
   13 }

```

After the end of the **verse** environment, which places the <pre> tag at the regular left margin:

```

14 \AtEndEnvironment{verse}{%
15 \leavevmode%
16 \LWR@afterendverbatim{1}%
17 }

```

Patch to place poemtitle inside an HTML of class poemtitle:

```

18 \ifdef{\poemtitle}{%
19 \DeclareDocumentCommand{\vstypepoemtitle}{m}{%
20   \vspace{\beforepoemtitleskip}%
21   {\InlineClass{poemtitle}{\poemtitlefont #1}\par}%
22   \vspace{\afterpoemtitleskip}%
23 }
24 }{%
25
26 \LWR@traceinfo{Finished patching verse.}
27 }% AfterEndPreamble

```

File 457 l warp-**personotes.sty**

§ 557 Package **personotes**

(Emulates or patches code by NORMAN GRAY.)

Pkg **personotes** **personotes** is emulated.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{personotes}[2019/07/06]

2 \newcommand{\versonote}[1]{\marginpar{\#1}}
3 \newdimen\versotextwidth
4 \newdimen\versoleftmargin
5 \newcommand*{\versolayout}{}

```

In case the user changed the page number before loading `versonotes`:

```
6 \setcounter{page}{1}
```

File 458 **l warp-vertbars.sty**

§ 558 Package **vertbars**

(Emulates or patches code by PETER WILSON.)

Pkg `vertbars` `vertbars` is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{vertbars}[2010/11/27]

```
2 \newlength{\barwidth}
3 \setlength{\barwidth}{0.4pt}
4 \newlength{\barspace}
5 \setlength{\barspace}{1em}
6
7 \newenvironment{vertbar}{
8     \LWR@forcenewpage
9     \LWR@forceminwidth{\barwidth}
10    \begin{BlockClass}[
11        border-left: \LWR@printlength{\LWR@atleastonept} solid black ; %
12        padding-left: \LWR@printlength{\barspace}%
13    ]{vertbar}
14 }{
15    \end{BlockClass}
16 }
```

File 459 **l warp-vmargin.sty**

§ 559 Package **vmargin**

Pkg `vmargin` `vmargin` is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{vmargin}[2004/07/15]

```
2 \newcommand*{\LWRVM@customsize}[2]{}
3 \newcommand*{\setpapersize}[2][]{\ifstreq{\#2}{custom}{\LWRVM@customsize{}{}}
4 \newcommand*{\setmargins}[8]{}
5 \newcommand*{\setmarginsrb}[8]{}
6 \newcommand*{\setmargnohf}[4]{}
7 \newcommand*{\setmargnohfb}[4]{}
8 \newcommand*{\setmarg}[4]{}
9 \newcommand*{\setmargrb}[4]{}
10 \newlength{\PaperWidth}
11 \setlength{\PaperWidth}{8.5in}
12 \newlength{\PaperHeight}
```

```
13 \setlength{\PaperHeight}{11in}
14 \newif\ifLandscape
```

File 460 l warp-vowel.sty**§ 560 Package vowel**

(Emulates or patches code by FUKUI REI.)

Pkg vowel vowel is patched for use by l warp.

This package has been tested with *pdflatex* and the Type 1 TIPA fonts using the following package load sequence:

```
\usepackage[T3,T1]{fontenc}
\usepackage[utf8]{inputenc}
\usepackage[noenc]{tipa}
\usepackage{vowel}
```

for HTML output: 1 \LWR@ProvidesPackagePass{vowel}[2002/08/08]

```
2 \renewenvironment{vowel}[1][]
3   {%
4     \begin{lateximage}[-vowel-\~\PackageDiagramAltText]%
5     \@vowel[#1]%
6   }
7   {%
8     \@@vowel%
9     \end{lateximage}%
10 }
```

File 461 l warp-vpe.sty**§ 561 Package vpe**

Pkg vpe vpe is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{vpe}[2012/04/18]

File 462 l warp-vwcol.sty**§ 562 Package vwcol**

(Emulates or patches code by WILL ROBERTSON.)

Pkg vwcol vwcol is patched for use with l warp.

The width option is ignored. All v w c o l environments adjust to 1–3 equal-width columns, depending on the width of the browser window.

The remaining options are supported, except for lines and maxrecursion.

for HTML output: 1 \LWR@ProvidesPackagePass{v w c o l}[2015/02/10]

Factored from \v w c o l . Each is given a style tag to append to the final style.

```
\LWR@v w c o l @addrule {<style tag>}
2 \newcommand*{\LWR@v w c o l @addrule}[1]{%
3   \appto{\LWR@v w c o l style}{%
4     #1: %
5     \LWR@printlength{\v w c o l @rule} solid \LWR@origpound\LWR@v w c o l @rulecolor ; %
6   }%
7 }
```

```
\LWR@v w c o l @addrule {<style tag>}
8 \newcommand*{\LWR@v w c o l @addgap}[1]{%
9   \appto{\LWR@v w c o l style}{%
10    #1: %
11    \LWR@printlength{\v w c o l @sep} ; %
12  }%
13 }
```

Env v w c o l {<key/values>}

Redefine the environment to add a HTML style. The style is built depending on the required options.

```
14 \renewenvironment*{v w c o l}[1][]{%
15 \LWR@stopars%
16 \v w c o l setup{#1}%
```

Begin with no style:

```
17 \newcommand*{\LWR@v w c o l style}{}%
```

presep and postsep are created with HTML margins:

```
18 \if@v w c o l @presep
19   \appto{\LWR@v w c o l style}{margin-left: 1em ; padding-left: .5em ; }
20 \fi
21 \if@v w c o l @postsep
22   \appto{\LWR@v w c o l style}{margin-right: 1em ; padding-right: .5em ; }
23 \fi
```

sep becomes column-gap:

```
24 \ifdimgreater{\v w c o l @sep}{1sp}{%
25   \LWR@v w c o l @addgap{column-gap}
26   \LWR@v w c o l @addgap{-moz-column-gap}
27   \LWR@v w c o l @addgap{-webkit-column-gap}
28 }{}
```

rule become column-rule, while prerule and postrule become HTML borders:

```

29 \convertcolorspec{named}{\vwcol@rulecol}{HTML}\LWR@vwcol@rulecolor%
30 \ifdimgreater{\vwcol@rule}{0pt}{
31   \ifdimless{\vwcol@rule}{1pt} {
32     \setlength{\vwcol@rule}{1pt}
33   }{}}
34   \LWR@vwcol@addrule{column-rule}
35   \LWR@vwcol@addrule{-moz-column-rule}
36   \LWR@vwcol@addrule{-webkit-column-rule}
37   \if@vwcol@prerule\LWR@vwcol@addrule{border-left}\fi
38   \if@vwcol@postrule\LWR@vwcol@addrule{border-right}\fi
39 }{}}

```

Each of the justify options becomes a text-align. Indentation is added where appropriate.

```

40 \ifdefequal{\vwcol@justify}{\RaggedRight} {
41   \appto{\LWR@vwcolstyle}{text-align: left ; }
42   \ifdimgreater{\vwcol@parindent}{0pt} {
43     \appto{\LWR@vwcolstyle}{%
44       text-indent: \LWR@printlength{\vwcol@parindent} ; %
45     }
46   }{}}
47 }{}}

48 \ifdefequal{\vwcol@justify}{\RaggedLeft} {
49   \appto{\LWR@vwcolstyle}{text-align: right ; }
50 }{}}

51 \ifdefequal{\vwcol@justify}{\Centering} {
52   \appto{\LWR@vwcolstyle}{text-align: center ; }
53 }{}}

54 \ifdefequal{\vwcol@justify}{\justifying} {
55   \appto{\LWR@vwcolstyle}{text-align: justify ; }
56   \ifdimgreater{\vwcol@parindent}{0pt} {
57     \appto{\LWR@vwcolstyle}{%
58       text-indent: \LWR@printlength{\vwcol@parindent} ; %
59     }
60   }{}}
61 }{}}

```

Create the <div> with the assembled style:

```

62 \BlockClass[\LWR@vwcolstyle]{multicols}
63 }

```

When the environment ends:

```

64 {
65 \endBlockClass
66 \LWR@startpars
67 }

```

File 463 l warp-wallpaper.sty

§ 563 Package **wallpaper**

(Emulates or patches code by MICHAEL H.F. WILKINSON.)

Pkg wallpaper **wallpaper** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{wallpaper}[2005/01/18]

```
2 \newcommand*\{CenterWallPaper}[2]{}
3 \newcommand*\{ThisCenterWallPaper}[2]{}
4 \newcommand*\{TileWallPaper}[3]{}
5 \newcommand*\{ThisTileWallPaper}[3]{}
6 \newcommand*\{TileSquareWallPaper}[2]{}
7 \newcommand*\{ThisTileSquareWallPaper}[2]{}
8 \newcommand*\{ULCornerWallPaper}[2]{}
9 \newcommand*\{ThisULCornerWallPaper}[2]{}
10 \newcommand*\{LLCornerWallPaper}[2]{}
11 \newcommand*\{ThisLLCornerWallPaper}[2]{}
12 \newcommand*\{URCornerWallPaper}[2]{}
13 \newcommand*\{ThisURCornerWallPaper}[2]{}
14 \newcommand*\{LRCornerWallPaper}[2]{}
15 \newcommand*\{ThisLRCornerWallPaper}[2]{}
16 \newcommand*\{ClearWallPaper}{}{}
17 \newlength{\wpXoffset}
18 \newlength{\wpYoffset}
```

File 464 l warp-watermark.sty

§ 564 Package **watermark**

(Emulates or patches code by ALEXANDER I. ROZHENKO.)

Pkg watermark **watermark** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{watermark}[2004/12/09]

```
2 \newcommand{\watermark}[1]{}{}
3 \newcommand{\leftwatermark}[1]{}{}
4 \newcommand{\rightwatermark}[1]{}{}
5 \newcommand{\thiswatermark}[1]{}{}
6 \newcommand{\thispageheading}[1]{}{}
```

File 465 l warp-widetable.sty**§ 565 Package widetable**

(Emulates or patches code by CLAUDIO BECCARI.)

Pkg widetable widetable is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{widetable}[2019-06-25]

2 \newenvironment{widetable}{\begin{tabular*}}{\end{tabular*}}

File 466 l warp-widows-and-orphans.sty**§ 566 Package widows-and-orphans**

Pkg widows-and-orphans widows-and-orphans is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{widows-and-orphans}[2018/09/01]

2 \NewDocumentCommand\Wa0setup{}{}
3 \NewDocumentCommand\Wa0parameters{}{}
4 \NewDocumentCommand\Wa0ignorenext{}{}

File 467 l warp-witharrows.sty**§ 567 Package witharrows**

(Emulates or patches code by F. PANTIGNY.)

Pkg witharrows witharrows is patched for use by l warp. Emulation is provided for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{witharrows}[2019/12/27]

2 \begin{warpHTML}
3 \makeatletter
4 \ifbool{mathjax}{
5 % For the hidden print version in the HTML:
6 \newcommand{\Arrow}[2][]{
7 \newcommand{\unicode}[1]{
8 \NewDocumentEnvironment { DispWithArrows } { ! d < > ! O { } +b }
9 {
10 \IfValueTF{#1}{
11 \begin{displaymath}
12 #1 \left\{ \right.

```
13          \begin{align}
14          #3
15          \end{align}
16          \right .
17          \end{displaymath}
18      }{
19          \begin{displaymath}
20          \begin{align}
21          #3
22          \end{align}
23          \end{displaymath}
24      }
25  }
26  {}
27 \NewDocumentEnvironment { DispWithArrows* } { ! d < > ! O { } +b}
28  {
29      \IfValueTF{#1}{
30          \begin{displaymath}
31          #1 \left\{ \left.
32          \begin{align*}
33          #3
34          \end{align*}
35          \right .
36          \end{displaymath}
37      }{
38          \begin{displaymath}
39          \begin{align*}
40          #3
41          \end{align*}
42          \end{displaymath}
43      }
44  }
45  {}
46 }{
47 % If not MathJax, use SVG images.
48 \BeforeBeginEnvironment{WithArrows}{\global\booltrue{LWR@unknownmathsize}}
49 \BeforeBeginEnvironment{DispWithArrows}){
50     \begin{BlockClass}{displaymathnumbered}%
51     \begin{ lateximage}%
52     }
53     \AfterEndEnvironment{DispWithArrows}{\end{ lateximage}\end{BlockClass}}
54     \BeforeBeginEnvironment{DispWithArrows*}){
55         \begin{BlockClass}{displaymath}%
56         \begin{ lateximage}%
57         }
58         \AfterEndEnvironment{DispWithArrows*}{\end{ lateximage}\end{BlockClass}}
59 }
60 \makeatother
61 \end{warpHTML}
62
63 \begin{warpMathJax}
64 \CustomizeMathJax{\newenvironment{WithArrows}[1][]{\begin{aligned}}{\end{aligned}}}
65 % Unable to make a sized box.
66 \CustomizeMathJax{\newcommand{\Arrow}[2][]{\&\Large\unicode{x2938}\textit{#2}}}
67 \end{warpMathJax}
```

File 468 **l warp-wrapfig.sty**

§ 568 Package **wrapfig**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg wrapfig wrapfig is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{wrapfig}[2003/01/31]

```
2 \newcommand*\LWR@wrapposition{}%
3 %
4 \newcommand*\LWR@subwrapfigure[2]{%
5 \renewcommand*\LWR@wrapposition{}%
6 \ifthenelse{%
7   \equal{\#1}{r}\OR\equal{\#1}{R}\OR%
8   \equal{\#1}{o}\OR\equal{\#1}{O}%
9 }{%
10   \renewcommand*\LWR@wrapposition{float:right}%
11   \renewcommand*\LWR@wrapposition{float:left}%
12 \setlength{\LWR@templengthone}{\#2}%
13 \LWR@BlockClassWP{%
14   width:\LWR@printlength{\LWR@templengthone}; \LWR@wrapposition; %
15   margin:10pt%
16 }%
17 {%
18   width:\LWR@printlength{\LWR@templengthone}; \LWR@wrapposition; %
19 }%
20 {marginblock}%

21 \setlength{\linewidth}{\LWR@templengthone}%
22 }
23 %
24 %
25 \NewDocumentEnvironment{wrapfigure}{o m o m}%
26 {%
27 \begin{\LWR@setvirtualpage}%
28 \LWR@subwrapfigure{\#2}{\#4}%
29 \captionsetup{type=figure}%
30 }%
31 {%
32 \end{\LWR@BlockClassWP}%
33 \end{\LWR@setvirtualpage}%
34 }%
35 %
36 %
37 \NewDocumentEnvironment{wraptable}{o m o m}%
38 {%
39 \begin{\LWR@setvirtualpage}%
40 \LWR@subwrapfigure{\#2}{\#4}%
41 }
```

```
41 \captionsetup{type=table}%
42 }
43 {%
44 \endLWR@BlockClassWP%
45 \end{LWR@setvirtualpage}%
46 }
47
48
49 \NewDocumentEnvironment{wrapfloat}{m o m o m}
50 {%
51 \begin{LWR@setvirtualpage}*%
52 \LWR@subwrapfigure{#3}{#5}%
53 \captionsetup{type=#1}%
54 }
55 {%
56 \endLWR@BlockClassWP%
57 \end{LWR@setvirtualpage}%
58 }
59
60 \newlength{\wrapoverhang}
```

File 469 **l warp-xbmks.sty**

§ 569 Package **xbmks**

Pkg xbmks xbmks is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{xbmks}[2018/07/04]

```
2 \newcommand{\xbmksetup}[1]{}
3 \NewDocumentCommand{\pdfbookmarkx}{o m o m}{}%
4 \NewDocumentCommand{\currentpdfbookmarkx}{m o m}{}%
5 \NewDocumentCommand{\subpdfbookmarkx}{m o m}{}%
6 \NewDocumentCommand{\belowpdfbookmarkx}{m o m}{}%
```

File 470 **l warp-xcolor.sty**

§ 570 Package **xcolor**

(Emulates or patches code by DR. UWE KERN.)

Pkg xcolor xcolor is supported by l warp.

§ 570.1 Limitations

\colorboxBlock and \fcolorboxBlock	\colorboxBlock and \fcolorboxBlock are provided for increased HTML compatibility, and they are identical to \colorbox and \fcolorbox in print mode. In HTML mode they place their contents into a <div> instead of a . These <div>s are set to display: inline-block so adjacent \colorboxBlocks appear side-by-side in HTML, although text is placed before or after each.
Print-mode definitions for \colorboxBlock and \fcolorboxBlock are created by lwarp's core if xcolor is loaded.	
background: none	\fcolorbox and \fcolorboxBlock allow a background color of none, in which case only the frame is drawn, which can be useful for HTML.
color support	Color definitions, models, and mixing are fully supported without any changes required.
colored tables	\rowcolors is supported, except that the optional argument is ignored so far.
colored text and boxes	\textcolor, \colorbox, and \fcolorbox are supported.
\color and \pagecolor	\color and \pagecolor are ignored. Use css or \textcolor where possible.

§ 570.2 xcolor definitions: location and timing

The lwarp core and its lwarp-xcolor package are tightly integrated to allow comparable results for print, HTML, and print inside an HTML `lateximage`. This requires a number of definitions and redefinitions depending on whether each of xcolor and `lateximage` is being used, and whether print or HTML is being generated. Some of these actions are one-time when xcolor is loaded, and others are temporary as `lateximage` is used.

When xcolor is loaded in print mode: No special actions are taken at the time that xcolor is loaded in print mode, but see \AtBeginDocument below.

When lwarp-xcolor is loaded in HTML mode: xcolor's original definitions are saved for later restoration. \LWR@restoreorigformatting is appended to restore these definitions for use inside a `lateximage`. New HTML-mode definitions are created for \textcolor, \pagecolor, \nopagecolor, \colorbox, \colorboxBlock, \fcolorbox, \fcolorboxBlock, and fcolorminipage.

\AtBeginDocument in print or HTML mode: See Section 85. If xcolor has been loaded, the print-mode \fcolorbox is modified to accept a background color of none, and additional definitions are created for lwarp's new macros print-mode macros \colorboxBlock, \fcolorboxBlock, and fcolorminipage. The HTML versions of these macros will already have been created by lwarp-xcolor if it has been loaded.

For use inside an HTML `lateximage`, \LWR@restoreorigformatting is appended to temporarily set these functions to their print-mode versions.

In a lateximage in HTML mode: \LWR@restoreorigformatting temporarily restores the print-mode definitions of xcolor's functions. See \LWR@restoreorigformatting on page 502.

\color:

Print: Used as-is.

HTML: Ignored by *pdftotext*, and will not appear.

HTML lateximage: Colors will appear in a *lateximage*.

\textcolor:

Print: Used as-is.

HTML: Redefined by *lwarp-xcolor*, page 1090.

HTML lateximage: Remembers and reuses the print version.

\pagecolor:

Print: Used as-is.

HTML: Ignored.

HTML lateximage: Colors will be picked up in a *lateximage*.

\nopagecolor:

Print: Used as-is.

HTML: Ignored.

HTML lateximage: Colors will be picked up in a *lateximage*.

\colorbox:

Print: Used as-is.

HTML: Redefined by *lwarp-xcolor*, page 1091.

HTML lateximage: Remembers and reuses the print version.

\colorboxBlock:

Print: Becomes *\colorbox*.

HTML: Newly defined by *lwarp-xcolor* to use a <div>, page 1091.

HTML lateximage: Remembers and reuses the print version *\colorbox*.

\fcolorbox:

Print: Modified to allow a background of none.

\LWR@print@fcolorbox at section 85

HTML: Redefined by *lwarp-xcolor*, page 1091.

HTML lateximage: Remembers and reuses the print version.

\fcolorboxBlock:

Print: Becomes *\fcolorbox*. Section 85

HTML: Newly defined by *lwarp-xcolor* to use a <div>, page 1092.

HTML lateximage: Remembers and reuses the print version *\fcolorbox*.

fcolorminipage:

Print: Newly defined in the *lwarp* core.

\LWR@print@fcolorminipage at section 85

HTML: Newly defined by `lwarp-xcolor`, page 1093.

HTML `lateximage`: Uses the print version.

\boxframe:

Print: Used as-is.

HTML: Redefined by `lwarp-xcolor`, page 1094.

HTML `lateximage`: Remembers and reuses the print version.

§ 570.3 Package loading

```
for HTML output: 1 \LWR@ProvidesPackagePass{xcolor}[2016/05/11]
                  2 \begin{warpHTML}
```

§ 570.4 Remembering and restoring original definitions

Remember the following print-mode actions to be restored when inside a `lateximage` environment:

```
3 \LetLtxMacro{\LWR@print@pagecolor}{\pagecolor}
4 \LetLtxMacro{\LWR@print@nopagecolor}{\nopagecolor}
```

`\LWR@restoreorigformatting` Inside a `lateximage` the following gets restored to their print-mode actions:

```
5 \appto{\LWR@restoreorigformatting}{%
6 \LetLtxMacro{\pagecolor}{\LWR@print@pagecolor}%
7 \LetLtxMacro{\nopagecolor}{\LWR@print@nopagecolor}%
8 }
```

§ 570.5 `\normalcolor`

```
\normalcolor
      9 \DeclareRobustCommand{\LWR@HTML@normalcolor}{\color{black}}%
      10
      11 \LWR@formatted{normalcolor}
```

§ 570.6 **HTML color style**

```
\LWR@findcurrenttextcolor
      Sets \LWR@tempcolor to the current color.
      12 \renewcommand*{\LWR@findcurrenttextcolor}{%
      13 \protect\colorlet{\LWR@current@color}{.}%
      14 \protect\convertcolorspec[named]{\LWR@current@color}{HTML}\LWR@tempcolor%
      15 }
```

Prints a color style for the current color.

```
\LWR@currenttextcolorstyle
      16 \newcommand*{\LWR@currenttextcolorstyle}{%
      17 \LWR@findcurrenttextcolor%
      18 \ifdefstring{\LWR@tempcolor}{000000}%
      19 {}%
      20 {color: \LWR@origpound\LWR@tempcolor ; }%
      21 }
```

\LWR@textcurrentcolor {*text*} Like \textcolor but uses the current \color instead.

```
22 \DeclareDocumentCommand{\LWR@textcurrentcolor}{m}{%
23 \begingroup%
24 \LWR@FBcancel%
25 \LWR@findcurrenttextcolor%
26 \InlineClass[color:\LWR@origpound\LWR@tempcolor]{textcolor}{%
27     \renewcommand*\LWR@currenttextcolor{\LWR@origpound\LWR@tempcolor}%
28     #1%
29 }%
30 \endgroup%
31 }
```

\LWR@colorstyle {*model*} {*color*}

For a color style, prints the color converted to HTML colors.

```
32 \NewDocumentCommand{\LWR@colorstyle}{m m}{%
33 \begingroup%
34 \LWR@FBcancel%
```

Use the xcolor package to convert to an HTML color space:

```
35 \convertcolorspec{#1}{#2}{HTML}\LWR@tempcolor%
```

Print the converted color:

```
36 \LWR@origpound\LWR@tempcolor%
37 \endgroup%
38 }
```

\LWR@backgroundcolor [*model*] {*color*} {*text*}

Similar to \textcolor, but prints black text against a color background.

Converted into an HTML hex color span.

```
39 \NewDocumentCommand{\LWR@backgroundcolor}{O{named} m m}{%
40 \begingroup%
41 \LWR@FBcancel%
42 \InlineClass[background:\LWR@colorstyle{#1}{#2}]{backgroundcolor}{%
43 #3%
44 }%
45 \endgroup%
46 }
```

§ 570.7 HTML border

\LWR@borderpadding {*colorstyle*} {*color*} Prints the HTML attributes for a black border and padding.
 \LWR@forceminwidth must be used first in order to set the border width.

```
47 \newcommand*{\LWR@borderpadding}[2]{%
48 border:\LWR@printlength{\LWR@atleastonept} solid \LWR@colorstyle{#1}{#2} ; %
49 padding:\LWR@printlength{\fboxsep}%
50 }
```

§ 570.8 High-level macros

\color [*model*] {*color*}

⚠ The current \color is used by HTML rules and frames, but does not affect the current HTML text output, due to the lack of HTML states and scoping limitations. Use \textcolor if possible.

```
51 \NewDocumentCommand{\LWR@HTML@color}{o m}{%
52 \IfValueTF{#1}{%
53   \LWR@print@color[#1]{#2}%
54   \convertcolorspec{#1}{#2}{HTML}\LWR@tempcolor%
55 }{%
56   \LWR@print@color{#2}%
57   \convertcolorspec{named}{#2}{HTML}\LWR@tempcolor%
58 }%
59 \edef\LWR@currenttextcolor{\LWR@origpound\LWR@tempcolor}%
60 }%
61
62 \LWR@formatted{color}
```

\textcolor [*model*] {*color*} {*text*}

Converted into an HTML hex color span.

```
63 \NewDocumentCommand{\LWR@HTML@textcolor}{o m m}{%
64 \begingroup%
65 \IfValueTF{#1}{%
66   \color[#1]{#2}%
67 }{%
68   \color{#2}%
69 }%
70 \InlineClass[color:\LWR@currenttextcolor]{textcolor}{#3}%
71 \endgroup%
72 }%
73
74 \LWR@formatted{textcolor}
```

\pagecolor [*model*] {*color*}

Ignored. Use css instead.

```
75 \renewcommand*{\pagecolor}[2][named]{}
```

\nopagecolor Ignored.

```
76 \renewcommand*\nopagecolor{}
```

\colorbox [⟨model⟩] {⟨color⟩} {⟨text⟩}

Converted into an HTML hex background color .

```
77 \NewDocumentCommand{\LWR@HTML@colorbox}{O{named} m +m}{%
78 \begingroup%
79 \LWR@FBcancel%
80 \InlineClass[%%
81 background:\LWR@colorstyle{#1}{#2} ; %
82 padding:\LWR@printlength{\fboxsep}%
83 ]{colorbox}{#3}%
84 \endgroup%
85 }%
86
87 \AtBeginDocument{%
88 \LWR@formatted{colorbox}%
89 }
```

\colorboxBlock [⟨model⟩] {⟨color⟩} {⟨text⟩}

Converted into an HTML hex background color <div>.

```
90 \NewDocumentCommand{\LWR@HTML@colorboxBlock}{O{named} m +m}{%
91 \begingroup%
92 \LWR@FBcancel%
93 \LWR@stopars%
94 \begin{BlockClass}[%%
95 background:\LWR@colorstyle{#1}{#2} ; %
96 padding:\LWR@printlength{\fboxsep}%
97 ]{colorboxBlock}%
98 #3%
99 \end{BlockClass}%
100 \endgroup%
```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```
101 \global\booltrue{\LWR@minipagethispar}%
102 }
103
104 \AtBeginDocument{%
105 \LWR@formatted{colorboxBlock}%
106 }
```

```
\fcolorbox [⟨framemodel⟩] {⟨framecolor⟩} [⟨boxmodel⟩] {⟨boxcolor⟩} {⟨text⟩}
```

Converted into a framed HTML hex background color span.

A background color of none creates a colored frame without a background color.

```
107 \NewDocumentCommand{\LWR@HTML\fcolorbox}{O{named} m O{named} m +m}{%
108 \LWR@traceinfo{HTML fcolorbox #2 #4}%
109 \begingroup%
110 \LWR@FBcancel%
111 \LWR@forceminwidth{\fboxrule}%
112 \ifthenelse{\equal{#4}{none}}{%
113     {% no background color
114         \InlineClass[%
115             \LWR@borderpadding{#1}{#2}%
116         ]{\fcolorbox}{#5}%
117     }%
118     {% yes background color
119         \InlineClass[%
120             \LWR@borderpadding{#1}{#2} ; %
121             background:\LWR@colorstyle{#3}{#4}%
122         ]{\fcolorbox}{#5}%
123     }%
124 \endgroup%
125 }
126
127 \AtBeginDocument{%
128 \LWR@formatted{\fcolorbox}%
129 }
```

```
\fcolorboxBlock [⟨framemodel⟩] {⟨framecolor⟩} [⟨boxmodel⟩] {⟨boxcolor⟩} {⟨text⟩}
```

Converted into a framed HTML hex background color span.

A background color of none creates a colored frame without a background color.

```
130 \NewDocumentCommand{\LWR@HTML\fcolorboxBlock}{O{named} m O{named} m +m}{%
131 \LWR@traceinfo{HTML fcolorboxBlock #2 #4}%
132 \begingroup%
133 \LWR@FBcancel%
134 \LWR@forceminwidth{\fboxrule}%

135 \LWR@stopars%

136 \ifthenelse{\equal{#4}{none}}{%
137     {% no background color
138         \begin{BlockClass}[%
139             \LWR@borderpadding{#1}{#2}%
140         ]{\fcolorboxBlock}%
141         #5
142         \end{BlockClass}%
143     }%
144     {% yes background color
145         \begin{BlockClass}[%
146             \LWR@borderpadding{#1}{#2} ; %
147             background:\LWR@colorstyle{#3}{#4}%
148         ]{\fcolorboxBlock}%
149         #5
150         \end{BlockClass}%
151     }%
152 }
```

```

145      \convertcolorspec{#3}{#4}{HTML}\LWR@tempcolortwo%
146      \begin{BlockClass}[%  

147          background:\LWR@origpound\LWR@tempcolortwo\ ; %  

148          \LWR@borderpadding{#1}{#2}%
149      ]{fcolorboxBlock}
150      #5
151      \end{BlockClass}%
152  }%
153 \endgroup%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

154 \global\booltrue{\LWR@minipagethispar}%
155 \LWR@traceinfo{HTML fcolorboxBlock done}%
156 }
157
158 \AtBeginDocument{%
159 \LWR@formatted{fcolorboxBlock}%
160 }

```

Creates a framed HTML <div> around its contents.

A print-output version is defined in the **lwarp** core: section 85

```

\LWR@subfcolorminipage {⟨framemodel⟩} {⟨framecolor⟩} {⟨background tag⟩} {⟨height⟩}
161 \NewDocumentCommand{\LWR@subfcolorminipage}{m m m m}{%
162 \LWR@stoppars%
163 \begin{BlockClass}[%  

164 #3%
165 \LWR@borderpadding{#1}{#2} ; %
166 \IfValueT{#4}{height:\LWR@printlength{\LWR@tempheight} ; }%
167 width:\LWR@printlength{\LWR@tempwidth}%
168 ]{fcolorminipage}%
169 }

Env  fcolorminipage [⟨1:framemodel⟩] {⟨2:framecolor⟩} [⟨3:boxmodel⟩] {⟨4:boxcolor⟩} [⟨5:align⟩] [⟨6:height⟩]
[⟨7:inner-align⟩] {⟨8:width⟩}

170 \NewDocumentEnvironment{\LWR@HTML@fcolorminipage}{O{named} m O{named} m O{c} o o m}
171 {%
172 \LWR@FBcancel%
173 \setlength{\LWR@tempwidth}{#8}%
174 \IfValueT{#6}{\setlength{\LWR@tempheight}{#6}}%
175 \LWR@forceminwidth{\fboxrule}%
176 \convertcolorspec{#1}{#2}{HTML}\LWR@tempcolor%
177 \ifthenelse{\equal{#4}{none}}{%
178     {\LWR@subfcolorminipage[#1]{#2}{}}{#6}%
179     {%
180         \convertcolorspec{#3}{#4}{HTML}\LWR@tempcolortwo%

```

```

181      \LWR@subfcolorminipage{#1}{#2}%
182          {background:\LWR@origpound\LWR@tempcolortwo\ ; }%
183          {#6}%
184      }%
185 }%
186 {%
187     \end{BlockClass}%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

188     \global\booltrue{\LWR@minipagethispar}%
189 }
190
191 \AtBeginDocument{%
192 \LWR@formattedenv{fcolorminipage}%
193 }

```

\boxframe {*width*} {*height*} {*depth*}

The depth is added to the height, but the box is not descended below by the depth. \textcolor is honored.

```

194 \newcommand*{\LWR@HTML@boxframe}[3]{%
195 {%
196 \setlength{\LWR@tempwidth}{#1}%
197 \setlength{\LWR@tempheight}{#2}%
198 \addtolength{\LWR@tempheight}{#3}%
199 \LWR@forceminwidth{\fboxrule}%
200 \LWR@findcurrenttextcolor%
201 \InlineClass[%
202 display:inline-block ; %
203 border:\LWR@printlength{\LWR@atleastonept} solid \LWR@currenttextcolor{} ; %
204 width:\LWR@printlength{\LWR@tempwidth} ; %
205 height:\LWR@printlength{\LWR@tempheight}%
206 ]{\boxframe}{}%
207 }%
208 }%
209
210 \LWR@formattedenv{\boxframe}

```

§ 570.9 Row colors

```

\rowc@l@rs [⟨cmds⟩] {⟨startrow⟩} {⟨odd color⟩} {⟨even color⟩}
211 \newcommand*{\LWR@xcolor@tempcolor}{}%
212
213 \def\rowc@l@rs[#1]#2#3#4%
214 {
215 \rownum=1%
216     \rowcolorstrue%
217     \ifxempty{#3}%
218         {\def\@oddrowcolor{\@norowcolor}}%

```

```

219      {%
220          \convertcolorspec{named}{#3}{HTML}\LWR@xcolortempcolor%
221          \edef\@oddrowcolor{%
222              \csdef{\LWR@xcolorrowHTMLcolor}{\LWR@xcolortempcolor}%
223          }%
224      }%
225      \@ifxempty{#4}%
226          {\def\@evenrowcolor{@norowcolor}%
227          {%
228              \convertcolorspec{named}{#4}{HTML}\LWR@xcolortempcolor%
229              \edef\@evenrowcolor{%
230                  \csdef{\LWR@xcolorrowHTMLcolor}{\LWR@xcolortempcolor}%
231              }%
232          }%
233          \if@rowcmd
234              \def\@rowcolors
235          {%
236 %                 #1%
237              \if@rowcolors
238 %                 \noalign{%
239                  \relax\ifnum\rownum<#2@\norowcolor\else
240                      \ifodd\rownum\@oddrowcolor\else\@evenrowcolor\fi\fi%
241 %                 }%
242              \fi%
243          }%
244          \else
245              \def\@rowcolors
246          {%
247              \if@rowcolors
248                  \ifnum\rownum<#2%
249 %                     \noalign{%
250                      \norowcolor
251 %                     }
252                  \else
253 %                     #1%
254 %                     \noalign{%
255                      \ifodd\rownum\@oddrowcolor\else\@evenrowcolor\fi%
256 %                     }%
257                  \fi
258              \fi%
259          }%
260          \fi
261          \ignorespaces%
262      }

```

\@norowcolor Turns off color for this row.

```

263 \def\@norowcolor{%
264 \renewcommand{\LWR@xcolorrowHTMLcolor}{()}%
265 }

```

\@rowc@lors Executed at the end of each row.

```

266 \def\@rowc@lors{%
267 %     \noalign{%

```

```

268      \advance\rownum\@ne%
269 %    }%
270      \@rowcolors%
271 }

272 \end{warpHTML}

```

File 471 **lwarp-xexchangebar.sty**

§ 571 Package **xexchangebar**

Pkg xexchangebar xexchangebar is ignored

for HTML output: 1 \LWR@ProvidesPackageDrop{xexchangebar}[2017/08/03]
2 \LWR@origRequirePackage{lwarp-changebar}

File 472 **lwarp-xellipsis.sty**

§ 572 Package **xellipsis**

(Emulates or patches code by DONALD P. GOODMAN III.)

Pkg xellipsis xellipsis is patched for use by lwarp.

When non-zero, each of the spaces is converted to an HTML thin unbreakable space.

for HTML output: 1 \LWR@ProvidesPackagePass{xellipsis}[2015/11/01]

```

2 \newcommand*{\LWR@xellipsespace}[1]{%
3 \ifdim#1=0pt\else%
4   \ifdim#1<\fontdimen2\font%
5     ,%
6   \else%
7     ~%
8   \fi%
9 \fi%
10 }
11
12 \def\xelip{%
13 \mbox{%
14   \LWR@xellipsespace{\xeliprebef}%
15   \xeliprechar%
16   \LWR@xellipsespace{\xelipraeft}%
17   \LWR@xellipsespace{\xelipbef}%
18   \xelipchar%
19   \xel@loopi = 1%
20   \loop\ifnum\xelipnum>\xel@loopi%
21     \advance\xel@loopi by1%
22     \LWR@xellipsespace{\xelipgap}%

```

```

23      \xelipchar%
24      \repeat%
25      \LWR@xellipsespace{\xelipaft}%
26      \LWR@xellipsespace{\xelippostbef}%
27      \xelippostchar%
28      \LWR@xellipsespace{\xelippostaft}%
29 }%
30 }%

```

File 473 **l warp-xetexko-vertical.sty**

§ 573 Package **xetexko-vertical**

(Emulates or patches code by DOHYUN KIM.)

Pkg **xetexko-vertical** **xetexko-vertical** is patched for use by **l warp**.

for HTML output:

```

1 \LWR@loadbefore{xetexko-vertical}
2
3 \LWR@ProvidesPackagePass{xetexko-vertical}[2018/04/06]

4 \renewcommand{\verticalltypesetting}{}
5 \renewenvironment{vertical}[1]{\BlockClass{verticalrl}}{\endBlockClass}
6 \renewenvironment{horizontal}[1]{\BlockClass{horizontaltb}}{\endBlockClass}
7 \renewcommand{\vertlatin}[1]{#1}

```

File 474 **l warp-xfakebold.sty**

§ 574 Package **xfakebold**

(Emulates or patches code by HERBERT VOSS.)

Pkg **xfakebold** **xfakebold** is patched for use by **l warp**, and additional underlying support is found in the **l warp** core.

⚠ **page breaks** Note that the print version resets to unbold at each page break, whereas the **HTML** version maintains the bold state until it is undone.

for HTML output:

```

1 \LWR@ProvidesPackagePass{xfakebold}[2018/07/25]

2 \let\LWR@orig@setBold\setBold
3 \let\LWR@orig@unsetBold\unsetBold
4 \renewcommand*\setBold{\booltrue{\LWR@xfakebold}}
5 \renewcommand*\unsetBold{\boolfalse{\LWR@xfakebold}}
6
7 \renewcommand*\LWR@applyxfakebold{%
8   \ifbool{\LWR@xfakebold}{\LWR@orig@setBold}{\LWR@orig@unsetBold}%
9 }

```

For MATHJAX, `xfakebold` is ignored.

```
10 \begin{warpMathJax}
11 \CustomizeMathJax{\newcommand{\setBold}[1][]{\textbf{#1}}}
12 \CustomizeMathJax{\newcommand{\unsetBold}{\textnormal{#1}}}
13 \end{warpMathJax}
```

File 475 **lwarf-xfrac.sty**

§ 575 Package **xfrac**

(Emulates or patches code by THE LATEX3 PROJECT.)

Pkg **xfrac** Supported by adding `xfrac` instances, and emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{xfrac}[2018-08-23]

⚠ **font size** In the user's document preamble, `lwarf` should be loaded after font-related setup. During HTML conversion, this font is used by `lwarf` to generate its initial PDF output containing HTML tags, later to be converted by `pdftotext` to a plain text file. While the text may be in any font which `pdftotext` can read, the math is directly converted into SVG images using this same user-selected font. `xfrac` below is set for the Latin Modern (lmr) font. If another font is used, it may be desirable to redefine `\xfracHTMLfontsize` with a different em size.

`\sfrac` [$\langle instance \rangle$] [$\langle num \rangle$] [$\langle sep \rangle$] [$\langle denom \rangle$]

A text-mode instance for the default font is provided below. The numerator and denominator formats are adjusted to encase everything in HTML tags. `\scalebox` is made null inside the numerator and denominator, since the HTML tags should not be scaled, and we do not want to introduce additional HTML tags for scaling.

In math mode, which will appear inside a `lateximage`, no adjustments are necessary.

for HTML & PRINT: 2 \begin{warpall}

`\xfracHTMLfontsize` User-redefinable macro which controls the font size of the fraction.

3 \newcommand*\xfracHTMLfontsize{.6em}

4 \end{warpall}

for HTML output: 5 \begin{warpHTML}

instances Instances of `xfrac` for various font choices:

Produce CSS for a small raised numerator and a small denominator.

Scaling is turned off so that `pdftotext` correctly reads the result.

6 \DeclareInstance{xfrac}{default}{text}{

```
7   numerator-format = {%
8     \begingroup%
9     \RenewDocumentCommand{\scalebox}{m o m}{##3}%
10    \InlineClass{numerator}{#1}\,%
11    \endgroup%
12  },
13  denominator-format = {%
14    \begingroup%
15    \RenewDocumentCommand{\scalebox}{m o m}{##3}%
16    \InlineClass{denominator}{#1}\,%
17    \endgroup%
18  },
```

For *pdftotext*, do not scale the text:

```
19  scaling = false
20 }
21
22 \DeclareInstance{xfrac}{lmr}{text}{
23   numerator-format = {%
24     \begingroup%
25     \RenewDocumentCommand{\scalebox}{m o m}{##3}%
26     \InlineClass{numerator}{#1}\,%
27     \endgroup%
28  },
29  denominator-format = {%
30    \begingroup%
31    \RenewDocumentCommand{\scalebox}{m o m}{##3}%
32    \InlineClass{denominator}{#1}\,%
33    \endgroup%
34  },
```

For *pdftotext*, do not scale the text:

```
35  scaling = false
36 }
37
38 \DeclareInstance{xfrac}{lmss}{text}{
39   numerator-format = {%
40     \begingroup%
41     \RenewDocumentCommand{\scalebox}{m o m}{##3}%
42     \InlineClass{numerator}{#1}\,%
43     \endgroup%
44  },
45  denominator-format = {%
46    \begingroup%
47    \RenewDocumentCommand{\scalebox}{m o m}{##3}%
48    \InlineClass{denominator}{#1}\,%
49    \endgroup%
50  },
```

For *pdftotext*, do not scale the text:

```
51  scaling = false
52 }
```

```

53
54 \DeclareInstance{xfrac}{lmtt}{text}{
55   numerator-format = {%
56     \begingroup%
57     \RenewDocumentCommand{\scalebox}{m o m}{##3}%
58     \InlineClass{numerator}{#1},%
59     \endgroup%
60   },
61   denominator-format = {%
62     \begingroup%
63     \RenewDocumentCommand{\scalebox}{m o m}{##3}%
64     \InlineClass{denominator}{#1}%
65     \endgroup%
66 },

```

For *pdftotext*, do not scale the text:

```

67   scaling = false
68 }

```

For MATHJAX:

```

69 \begin{warpMathJax}
70 \CustomizeMathJax{\newcommand{\LWRsfrac}[2][]{\{}^{\LWRsfracnumerator\!#1\}_{\#2}}\}}
71 \CustomizeMathJax{\newcommand{\sfrac}[2][]{\def\LWRsfracnumerator{\#2}\LWRsfrac}}
72 \end{warpMathJax}

73 \end{warpHTML}

```

File 476 **lwarp-xltabular.sty**

§ 576 Package **xltabular**

(Emulates or patches code by ROLF NIEPRASCHK, HERBERT VOSS.)

Pkg xltabular xltabular is emulated by lwarp.

for HTML output: Relies on tabularx.

- ⚠ **table numbering** At present, an xltabular without a caption or with only a \caption* may be misnumbered in HTML, so it may be necessary to place at the end of the table:

```
\warpHTMLonly{\addtocounter{table}{-1}}
```

```

1 \RequirePackage{tabularx}
2 \RequirePackage{ltablex}
3
4 \LWR@ProvidesPackageDrop{xltabular}[2018/05/23]
5
6 \DeclareDocumentEnvironment{xltabular}{o m m}
7 {\longtable{#3}}
8 {\endlongtable}

```

File 477 l warp-xltxttra.sty

§ 577 Package **xltxttra**

(Emulates or patches code by WILL ROBERTSON, JONATHAN KEW.)

Pkg xltxttra xltxttra is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{xltxttra}[2016/01/21]

```
2 \RequirePackage{realscripts}
3 \RequirePackage{metalogo}
4 \newcommand*\TeX@logo@spacing[6]{}
5
6 \newcommand*{\vfrac}[2]{%
7 \textsuperscript{\#1}/\textsubscript{\#2}%
8 }
9
10 \newcommand\namedglyph[1]{%
11   \tempcnta=\XeTeXglyphindex "#1"\relax
12   \ifnum\tempcnta>0
13     \XeTeXglyph\tempcnta
14   \else
15     \xxt@namedglyph@fallback{\#1}%
16   \fi}
17
18 \newcommand\xxt@namedglyph@fallback[1]{[\#1]}
19
20 \DeclareDocumentCommand{\showhyphens}{m}{}
```

File 478 l warp-xmpincl.sty

§ 578 Package **xmpincl**

(Emulates or patches code by MAARTEN SNEEP.)

Pkg xmpincl xmpincl is ignored.

for HTML output: Discard all options for l warp-xmpincl:

```
1 \LWR@ProvidesPackageDrop{xmpincl}[2008/05/10]
2 \newcommand*{\includexmp}[1]{}
```

File 479 l warp-xpiano.sty

§ 579 Package **xpiano**

(Emulates or patches code by ENRICO GREGORIO.)

Pkg xpiano xpiano is patched for use by l warp.

for HTML output:

```
1 \LWR@ProvidesPackagePass{xpiano}

2 \ExplSyntaxOn
3 \NewDocumentCommand{\LWR@print@keyboard}{ O{}m }
4 {
5 \xpiano_keyboard:nn { #1 } { #2 }
6 }
7
8 \NewDocumentCommand{\LWR@HTML@keyboard}{ O{}m }
9 {
10 \begin{lateximage}*
11   [
12     -xpiano-\~\PackageDiagramAltText{}: \detokenize\expandafter{\#2}%
13   ]
14   [\detokenize\expandafter{\#1}]
15 \xpiano_keyboard:nn { #1 } { #2 }
16 \end{lateximage}
17 }
18 \ExplSyntaxOff
19
20 \LWR@formatted{keyboard}
```

File 480 l warp-xpinyin.sty

§ 580 Package **xpinyin**

(Emulates or patches code by SOBEN LEE.)

Pkg xpinyin xpinyin is supported.

Pinyin is disabled for file names, the sidetoc, and regular footnotes, but is left enabled for minipage footnotes, as per the print mode.

for HTML output:

```
1 \LWR@ProvidesPackagePass[xpinyin][2019-04-07]
```

The original's boxes are not used, instead the contents are used with <ruby>, <rb>, and <rt> tags per modern HTML. Color is detected. ratio is ignored for *pdftotext* to work correctly. Extra spaces are placed inside the tags to allow line breaks in the HTML text.

```
2 \ExplSyntaxOn
3 \cs_new_protected_nopar:Npn \LWR@HTML@__xpinyin_make_pinyin_box:nnn #1#2#3
4 {
5     \color_group_begin: \color_ensure_current:
6     \l_xpinyin_pinyin_box_hook_tl
7     \renewcommand*\l_xpinyin_ratio_tl{1}% for pdftotext
8     \__xpinyin_select_font:
9     \clist_if_exist:cTF { c_xpinyin_multiple_ #1 _clist }
10    { \l_xpinyin_multiple_tl \l_xpinyin_format_tl }
11    { \l_xpinyin_format_tl }
12     \ifdefempty{\l_xpinyin_format_tl}
13        {#3}
14        {\LWR@textcurrentcolor{#3}}
15     \color_group_end:
16 }
17 \LWR@formatted{__xpinyin_make_pinyin_box:nnn}
18
19 \cs_new_protected_nopar:Npn \LWR@HTML@__xpinyin_CJKsymbol:nn #1#2
20 {
21     \__xpinyin_leavevmode:
22     \LWR@htmltagc{ruby}
23     \LWR@htmltagc{rb}
24     \__xpinyin_save_CJKsymbol:n {#2}\null% \null removes extra space
25     \LWR@htmltagc{/rb\space}
26     \LWR@htmltagc{rp}(\LWR@htmltagc{/rp\space}
27     \LWR@htmltagc{rt}
28     \__xpinyin_make_pinyin_box:nnn {#1} {#2} { \use:c { c_xpinyin_ #1 _tl } }
29     \LWR@htmltagc{/rt\space}
30     \LWR@htmltagc{rp})\LWR@htmltagc{/rp\space}
31     \LWR@htmltagc{/ruby\space}\null
32 }
33 \LWR@formatted{__xpinyin_CJKsymbol:nn}
34
35 \cs_new_protected_nopar:Npn \LWR@HTML@__xpinyin_single_CJKsymbol:nn #1#2
36 {
37     \__xpinyin_leavevmode:
38     \LWR@htmltagc{ruby}
39     \LWR@htmltagc{rb}
40     \__xpinyin_save_CJKsymbol:n {#1}\null% \null removes extra space
41     \LWR@htmltagc{/rb\space}
42     \LWR@htmltagc{rp}(\LWR@htmltagc{/rp\space}
43     \LWR@htmltagc{rt}
44     \__xpinyin_make_pinyin_box:xnn
45     { \__xpinyin_to_unicode:n {#1} } {#1} { \__xpinyin_pinyin:n {#2} }
46     \LWR@htmltagc{/rt\space}
47     \LWR@htmltagc{rp})\LWR@htmltagc{/rp\space}
48     \LWR@htmltagc{/ruby\space}\null
49 }
50 \LWR@formatted{__xpinyin_single_CJKsymbol:nn}
51
52 \ExplSyntaxOff
```

The `lwarp` core uses the following to disable CJK `xpinyin` for filenames, sideroc, and footnotes.

```
53 \renewcommand*\LWR@disablepinyin{\disablepinyin}
```

File 481 **l warp-xr.sty**

§ 581 Package **Xr**

(Emulates or patches code by JEAN-PIERRE DRUCBERT, DAVID CARLISLE.)

Pkg **xr** **xr** is patched for use by **l warp**. The ***_html.aux** file is used. **\externaldocument** is modified to also accept the optional arguments for **xr-hyper**, which currently uses **xr** for HTML output.

See section 5.17.

for HTML output: 1 \LWR@ProvidesPackagePass{xr}[2019/07/22]%

```
2 \LetLtxMacro\LWR@orig@\externaldocument\externaldocument
3
4 \RenewDocumentCommand{\externaldocument}{O{} O{} m O{}}{%
5   \ifblank{#1}{%
6     \LWR@orig@\externaldocument{#3_html}%
7   }{%
8     \LWR@orig@\externaldocument[#1]{#3_html}%
9   }%
10 }
```

File 482 **l warp-xr-hyper.sty**

§ 582 Package **xr-hyper**

(Emulates or patches code by DAVID CARLISLE.)

Pkg **xr-hyper** **xr-hyper** is replaced by **xr**, which is modified to accept the optional arguments for **\externaldocument**. So far, no hyperlinks are provided for citations.

See section 5.17.

for HTML output: 1 \LWR@ProvidesPackageDrop{xr-hyper}[2019/10/03]%
2
3 \LWR@origRequirePackage{l warp-xr}

File 483 **l warp-xtab.sty**

§ 583 Package **xtab**

(Emulates or patches code by PETER WILSON.)

Pkg xtab xtab is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{xtab}[2011/07/31]

⚠ Misplaced alignment
tab character &

For \tablefirsthead, etc., enclose them as follows:

```
\StartDefiningTabulars
\tablefirsthead
...
\StopDefiningTabulars
```

See section 8.10.1.

⚠ lateximage supertabular and xtab are not supported inside a lateximage.

```
2 \newcommand{\LWRXT@firsthead}{}%
3
4 \newcommand{\tablefirsthead}[1]{%
5   \long\gdef\LWRXT@firsthead{\#1}%
6 }
7
8 \newcommand{\tablehead}[1]{}%
9
10 \newcommand{\tablelasthead}[1]{}%
11
12 \newcommand{\notablelasthead}{}%
13
14 \newcommand{\tabletail}[1]{}%
15
16 \newcommand{\LWRXT@lasttail}{}%
17
18 \newcommand{\tablelasttail}[1]{%
19   \long\gdef\LWRXT@lasttail{\#1}%
20 }

21 \newcommand{\tablecaption}[2][]{%
22   \long\gdef\LWRXT@caption{%
23     \ifblank{\#1}{%
24       {\caption{\#2}}%
25       {\caption[\#1]{\#2}}%
26     }%
27   }%
28
29 \let\topcaption\tablecaption
30 \let\bottomcaption\tablecaption

31 \newcommand*\LWRXT@caption{}%
32
33 \newcommand*\shrinkheight[1]{}%
34
35 \newcommand*\xentrystretch[1]{}%
36
37 \NewDocumentEnvironment{xtabular}{s o m}
38 {%
39 \LWR@traceinfo{xtabular}%
```

```

40 \table%
41 \LWRXT@caption%
42 \begin{tabular}{#3}%
43 \TabularMacro\ifdefvoid{\LWRXT@firsthead}%
44 {\LWR@getmynexttoken}%
45 {\expandafter\LWR@getmynexttoken\LWRXT@firsthead}%
46 }%
47 {%
48 \ifdefvoid{\LWRXT@lasttail}%
49 {}%
50 {%
51 \TabularMacro\ResumeTabular%
52 \LWRXT@lasttail}%
53 }%
54 \end{tabular}%
55 \endtable%

56 \gdef\LWRXT@caption{}%

57 \LWR@traceinfo{xtabular done}%
58 }%
59
60 \NewDocumentEnvironment{mpxtabular}{s o m}%
61 {\minipage{\linewidth}\xtabular{#3}}%
62 {\endxtabular\endminipage}

```

File 484 **l warp-xunicode.sty**

§ 584 Package **xunicode**

Pkg xunicode Error if xunicode is loaded after l warp.

Patch l warp-xunicode, but also verify that is was loaded before l warp:

for HTML output:

```

1 \LWR@LoadBefore{xunicode}%
2
3 \LWR@ProvidesPackagePass{xunicode}[2011/09/09]

```

\textcircled becomes a span with a rounded border. \providecommand is used to avoid conflict with textcomp.

```

4 \providecommand*\LWR@HTML@textcircled[1]{%
5   \InlineClass[border: 1px solid \LWR@currenttextcolor]{textcircled}{#1}%
6 }
7
8 \LWR@formatted{textcircled}

```

Nullify xunicode macros when generating filenames:

```

9 \FilenameNullify{%
10   \renewcommand*\textdegree{}%

```

```

11  \renewcommand*\textcelsius{}%
12  \renewcommand*\textohm{}%
13  \renewcommand*\textmu{}%
14  \renewcommand*\textlquill{}%
15  \renewcommand*\textrquill{}%
16  \renewcommand*\textcircledP{}%
17  \renewcommand*\texttwelveudash{}%
18  \renewcommand*\textthreequartersemdash{}%
19  \renewcommand*\textmho{}%
20  \renewcommand*\textnaira{}%
21  \renewcommand*\textpeso{}%
22  \renewcommand*\textrecipe{}%
23  \renewcommand*\textinterrobang{}%
24  \renewcommand*\textinterrobangdown{}%
25  \renewcommand*\textperthousand{}%
26  \renewcommand*\textpertenthousand{}%
27  \renewcommand*\textbaht{}%
28  \renewcommand*\textdiscount{}%
29  \renewcommand*\textservicemark{}%
30  \renewcommand*\textcircled{[1]{#1}}%
31  \renewcommand*\capitalcedilla{[1]{#1}}%
32  \renewcommand*\capitalogonek{[1]{#1}}%
33  \renewcommand*\capitalgrave{[1]{#1}}%
34  \renewcommand*\capitalacute{[1]{#1}}%
35  \renewcommand*\capitalcircumflex{[1]{#1}}%
36  \renewcommand*\capitaltilde{[1]{#1}}%
37  \renewcommand*\capitaldieresis{[1]{#1}}%
38  \renewcommand*\capitalhungarumlaut{[1]{#1}}%
39  \renewcommand*\capitalring{[1]{#1}}%
40  \renewcommand*\capitalcaron{[1]{#1}}%
41  \renewcommand*\capitalbreve{[1]{#1}}%
42  \renewcommand*\capitalmacron{[1]{#1}}%
43  \renewcommand*\capitaldotaccent{[1]{#1}}%
44 }% FilenameNullify

```

File 485 **l warp-xurl.sty**

§ 585 Package **xurl**

Pkg xurl xurl is ignored.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{xurl}[2020/01/14]
2
3 \def\useOriginalUrlSetting{}

```

File 486 **l warp-xy.sty**

§ 586 Package **XY**

(Emulates or patches code by KRISTOFFER H. ROSE, ROSS MOORE.)

Pkg xy xy is patched for use by l warp.

for HTML output: 1 \LWR@ProvidesPackagePass{xy}[2013/10/06]

After xy modules have been loaded:

2 \AtBeginDocument{

The original definitions without a lateximage:

3 \LetLtxMacro{\LWR@orig@xy}{\xy}
4 \LetLtxMacro{\LWR@endxy}{\endxy}

The outer-most xy environment is placed in a lateximage, but not more than one level deep, which would conflict with xy:

```
5 \renewcommand*{\xy}{{%
6   \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{%
7     {\addtocounter{\LWR@lateximagedepth}{1}}%
8     {\begin{lateximage}[-xy-\~\PackageDiagramAltText]}%
9     \LWR@orig@xy%
10 }%
11 %
12 \renewcommand*{\endxy}{%
13   \LWR@orig@endxy%
14   \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{1}{%
15     {\addtocounter{\LWR@lateximagedepth}{-1}}%
16     {\end{lateximage}}%
17 }}
```

The \xybox must use the original definitions of \xy, \endxy:

```
18 \def\xybox#1{%
19   \LWR@orig@xy#1\LWR@orig@endxy%
20   \Edge@c={\rectangleEdge}\computeLeftUpness@%
21 }
```

If \xygraph is used, it is placed inside a lateximage:

```
22 \@ifundefined{xygraph}{}{%
23 %
24 \LetLtxMacro{\LWR@origxygraph}{\xygraph}
25 %
26 \renewcommand{\xygraph}[1]{%
27   \begin{lateximage}[-xy-\~\xygraph \PackageDiagramAltText]
28   \LWR@origxygraph{#1}%
29   \end{lateximage}%
30 }%
31 %
32 }% xygraph defined
33 %
34 }% AtBeginDocument
```

File 487 **l warp-zhlineskip.sty**

§ 587 Package **zhlineskip**

Pkg zhlineskip zhlineskip is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{zhlineskip}[2019/05/15]

```
2 \newcommand*{\SetTextEnvironmentSinglespace}[1]{}
3 \newcommand*{\RestoreTextEnvironmentLeading}[1]{}
4 \newcommand*{\SetMathEnvironmentSinglespace}[1]{}
5 \newcommand*{\RestoreMathEnvironmentLeading}[1]{}
```

File 488 **l warp-zwpagelayout.sty**

§ 588 Package **zwpagelayout**

(Emulates or patches code by ZDENĚK WAGNER.)

Pkg zwpagelayout zwpagelayout is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{zwpagelayout}[2013/01/13]

```
2 \def\noBboxes{}
3 \@onlypreamble\noBboxes
4
5 \expandafter\ifx\csname definecolor\endcsname\relax \else
6   \definecolor{cmykblack}{cmyk}{0,0,0,1}
7   \definecolor{grblk}{gray}{0}
8 %   \ifzwpl@redefineblack
9 %     \definecolor{black}{cmyk}{0,0,0,1}\color{black}
10 %   \fi
11  \definecolor{cmykred}{cmyk}{0,1,1,0}
12  \definecolor{cmykgreen}{cmyk}{1,0,1,0}
13  \definecolor{cmykblue}{cmyk}{1,1,0,0}
14  \definecolor{rgbred}{rgb}{1,0,0}
15  \definecolor{rgbgreen}{rgb}{0,1,0}
16  \definecolor{rgbblue}{rgb}{0,0,1}
17 %   \ifzwpl@redefinecmyk
18 %     \definecolor{red}{cmyk}{0,1,1,0}
19 %     \definecolor{green}{cmyk}{1,0,1,0}
20 %     \definecolor{blue}{cmyk}{1,1,0,0}
21 %   \fi
22 \fi
23
24 \let\OverprintXeTeXExtGState\relax
25
26 \DeclareRobustCommand{\SetOverprint{\ignorespaces}}
```

```
27 \DeclareRobustCommand\SetKnockout{\ignorespaces}
28 \DeclareRobustCommand\textoverprint[1]{{\SetOverprint#1}}
29 \DeclareRobustCommand\textknockout[1]{{\SetKnockout#1}}
30
31 \def\SetPDFminorversion#1{}
32 @onlypreamble\SetPDFminorversion
33
34 \newcommand*\Vcorr(){}
35
36 \DeclareRobustCommand\vb[1][]{}
37 \NewDocumentCommand{\NewOddPage}{* o}{}
38 \NewDocumentCommand{\NewEvenPage}{* o}{}
39 \def\SetOddPageMessage#1{\gdef\ZW@oddwarning}
40 \def\SetEvenPageMessage#1{\gdef\Z@evenwarning}
41 \def\ZW@oddwarning{Empty page inserted}\let\Z@evenwarning\ZW@oddwarning
42
43 \def\clap#1{#1}
44
45 \def\CropFlap{2in}
46 \def\CropSpine{1in}
47 \def\CropXSpine{1in}
48 \def\CropXtrim{.25in}
49 \def\CropYtrim{.25in}
50 \def\UserWidth{5in}
51 \def\UserLeftMargin{1in}
52 \def\UserRightMargin{1in}
53 \def\UserTopMargin{1in}
54 \def\UserBotMargin{1in}
55 \def\thePageNumber{\LWR@origpound\,\arabic{page}}
56 \ifXeTeX
57 \def\ifcaseZWdriver{\ifcase2}
58 \else
59 \def\ifcaseZWdriver{\ifcase1}
60 \fi
61 \DeclareRobustCommand\ZWifdriver[2]{}
```

File 489 **l warp-patch-komascript.sty**

§ 589 Package **patch-komascript**

Pkg l warp-patch-komascript Patches for komascript classes.

l warp loads this package when scrbook, scrartcl, or scrreprt classes are detected.

Many features are ignored during the HTML conversion. The goal is source-level compatibility.

\titlehead, \subject, \captionformat, \figureformat, and \tableformat are not yet emulated.

 Not fully tested! Please send bug reports!

Some features have not yet been tested. Please contact the author with any bug reports.

for HTML output: 1 \ProvidesPackage{lwarp-patch-komascript}

`typearea` is emulated.

2 \RequirePackage{lwarp-typearea}

`tocbasic` is emulated.

3 \RequirePackage{lwarp-tocbasic}

scrextend patches most of the new macros.

4 \RequirePackage{lwarp-scrextend}

Indexing macros, simplified for lwarps:

```

1 \AtBeginDocument{
2
3 \renewcommand*\idx@heading{%
4   \idx@@heading{\indexname}%
5 }
6
7 \renewenvironment{theindex}{%
8   \idx@heading%
9   \index@preamble\par\nobreak
10  \let\item\LWR@indexitem%
11  \let\subitem\LWR@indexsubitem%
12  \let\subsubitem\LWR@indexsubsubitem%
13 }
14
15 }
16
17 }
18 }
19
20 \renewcommand*\indexspace{ }
21
22 }% AtBeginDocument

```

The \minisec is placed inside a <div> of class minisec.

```
23 \renewcommand*\{\minisec}{[1]{  
24     \begin{BlockClass}{minisec}  
25     #1  
26     \end{BlockClass}  
27 }
```

The part and chapter preambles are placed as plain text just after each heading.

```
28 \@ifundefined{setpartpreamble}{}{  
29 \RenewDocumentCommand{\setpartpreamble}{o o +m}{%  
30     \renewcommand{\part@preamble}{#3}}%  
31 }  
32 }  
33  
34 \@ifundefined{setchapterpreamble}{}{  
35 \RenewDocumentCommand{\setchapterpreamble}{o o +m}{%  
36     \renewcommand{\chapter@preamble}{#3}}%
```

```
37 }
38 }
```

Simple captions are used in all cases.

```
39 \AtBeginDocument{
40     \LetLtxMacro{\captionbelow}{\caption}
41     \LetLtxMacro{\captionabove}{\caption}
42
43     \LetLtxMacro{\captionofbelow}{\captionof}
44     \LetLtxMacro{\captionofabove}{\captionof}
45 }
46
47 \RenewDocumentEnvironment{captionbeside}{ommoooo}
48 {}
49 {%
50     \IfValueTF{#1}{%
51         {\caption[#1]{#2}}%
52         {\caption{#2}}%
53 }
54
55 \RenewDocumentEnvironment{captionofbeside}{ommoooo}
56 {}
57 {%
58     \IfValueTF{#2}{%
59         {\captionof[#1]{#2}{#3}}%
60         {\captionof[#1]{#3}}%
61 }
62
63 \RenewDocumentCommand{\setcapindent}{sm}{}
64 \renewcommand*{\setcaphanging}{}%
65 \renewcommand*{\setcapwidth}[2][]{}
66 \renewcommand*{\setcapdynwidth}[2][]{}
67 \RenewDocumentCommand{\setcapmargin}{sm}{}
```

File 490 **l warp-patch-memoir.sty**

§ 590 Package **patch-memoir**

(Emulates or patches code by PETER WILSON.)

Pkg **l warp-patch-memoir** Patches for **memoir** class.

⚠ Not fully tested! Please send bug reports!

l warp loads this package when the **memoir** class is detected.

⚠ options clash While emulating **memoir**, **l warp** pre-loads a number of packages (section 590.1). This can cause an options clash when the user's document later loads the same packages with options. To fix this problem, specify the options before loading **l warp**:

```
\documentclass{memoir}
...
\PassOptionsToPackage{options_list}{package_name}
...
\usepackage{l warp}
...
\usepackage{package_name}
```

 **version numbers** *memoir* emulates a number of packages, and declares a version date for each which often does not match the date of the corresponding freestanding package. This can cause warnings about incorrect version numbers. Since *l warp* is intended to support the freestanding packages, which are often newer than the date declared by *memoir*, it is hoped that *memoir* will update and change its emulated version numbers to match.

`\verbfootnote` is not supported.

`\newfootnoteseries`, etc. are not supported.

l warp loads *pagenote* to perform *memoir*'s *pagenote* functions, but there are minor differences in `\pagenotesubhead` and related macros.

Poem numbering is not supported.

The `\verb+verbatim+` environment does not yet support the *memoir* enhancements. It is currently recommended to load and use `fancyvrb` instead.

The *memoir* glossary system is not yet supported by *l warpmk*. The *glossaries* package may be used instead, but does require the glossary entries be changed from the *memoir* syntax to the *glossaries* syntax.

for HTML output: 1 \ProvidesPackage{l warp-patch-memoir}

§ 590.1 Packages

These are pre-loaded to provide emulation for many of *memoir*'s functions. *memoir* pretends that `abstract`, etc. are already loaded, via its “emulated” package mechanism, but *l warp* is directly loading the “*l warp-*” version of each, which happens to avoid *memoir*'s emulation system.

```
2 \RequirePackage{l warp-abstract}% req'd
3 % \RequirePackage{l warp-array}% no longer req'd
4 \RequirePackage{l warp-booktabs}% req'd
5 % \RequirePackage{l warp-ccaption}% emulated below
6 \RequirePackage{l warp-changepage}% req'd
7 \RequirePackage{l warp-crop}
8 % \RequirePackage{l warp-dcolumn}% no longer req'd
9 \RequirePackage{l warp-enumerate}% req'd
10 \RequirePackage{l warp-epigraph}% req'd
11 \RequirePackage{l warp-fancyvrb}% req'd
12 \RequirePackage{l warp-footmisc}% req'd

13 \let\framed\relax \let\endframed\relax
14 \let\shaded\relax \let\endshaded\relax
15 \let\leftbar\relax \let\endleftbar\relax
```

```

16 \let\snugshade\relax \let\endsnugshade\relax
17 \RequirePackage{lwarp-framed}%
18 % req'd
19 \RequirePackage{lwarp-hanging}%
20 \RequirePackage{lwarp-makeidx}%
21 \DismulatePackage{moreverb}
22 \RequirePackage{lwarp-moreverb}
23 \RequirePackage{lwarp-mparhack}
24 \RequirePackage{lwarp-needspace}%
25 \RequirePackage{lwarp-nextpage}%
26 \RequirePackage{lwarp-pagenote}%
27 \RequirePackage{lwarp-parskip}
28 \RequirePackage{lwarp-setspace}%
29 \RequirePackage{lwarp-showidx}
30 \RequirePackage{lwarp-subcaption}%
31 % req'd for \subfloat

31 \makeindex

32 % \RequirePackage{lwarp-tabularx}%
33 % \RequirePackage{lwarp-titling}%
34 % \RequirePackage{lwarp-tocbibind}%
35 % \RequirePackage{lwarp-tocloft}%
36 % \RequirePackage{lwarp-verse}%

```

§ 590.2 Preliminary setup

Bypass the *memoir* package mechanism:

```
37 \LetLtxMacro{\LWR@orig}{\label@mem@old@\label}
```

memoir already set the page size to a default, so it must be forced large for *lwarp*'s use, to avoid tag overflows off the page.

```

38 \setstocksize{190in}{20in}
39 \setlrmarginsandblock{2in}{2in}{*}
40 \setulmarginsandblock{1in}{1in}{*}

```

§ 590.3 Page layout

```

41 \renewcommand*\{\stockavi}{}
42 \renewcommand*\{\stockav}{}
43 \renewcommand*\{\stockaiv}{}
44 \renewcommand*\{\stockaiii}{}
45 \renewcommand*\{\stockavii}{}
46 \renewcommand*\{\stockbvi}{}
47 \renewcommand*\{\stockbv}{}
48 \renewcommand*\{\stockbiv}{}
49 \renewcommand*\{\stockbiii}{}
50 \renewcommand*\{\stockbvii}{}
51 % \renewcommand*\{\stockmetriccrownvo}{}% in docs but not in the package
52 \renewcommand*\{\stockmlargecrownvo}{}%
53 \renewcommand*\{\stockmdemyvo}{}%
54 \renewcommand*\{\stockmsmallroyalvo}{}%
55 \renewcommand*\{\pageavi}{}

```



```
111 \renewcommand*\{\pagesuperroyalvo}{}  
112 \renewcommand*\{\pageimperialvo}{}  
113  
114 \renewcommand*\{\memfontfamily}{}  
115 \renewcommand*\{\memfontenc}{}  
116 \renewcommand*\{\memfontpack}{}  
117  
118 \renewcommand*\{\anyptfilebase}{}  
119 \renewcommand*\{\anyptsizes}{10}  
120  
121 \renewcommand*\{\setstocksize}[2]{}  
122 \renewcommand*\{\settrimmedsize}[3]{}  
123 \renewcommand*\{\settrims}[2]{}  
124  
125 % \newlength{\lxvchars}  
126 % \setlength{\lxvchars}{305pt}  
127 % \newlength{\xlvchars}  
128 % \setlength{\xlvchars}{190pt}  
129 \renewcommand*\{\setxlvchars}[1]{}  
130 \renewcommand*\{\setlxvchars}[1]{}  
131  
132 \renewcommand*\{\settypeblocksize}[3]{}  
133 \renewcommand*\{\setlrmargins}[3]{}  
134 \renewcommand*\{\setlrmarginsandblock}[3]{}  
135 \renewcommand*\{\setbinding}[1]{}  
136 \renewcommand*\{\setulmargins}[3]{}  
137 \renewcommand*\{\setulmarginsandblock}[3]{}  
138 \renewcommand*\{\setcolsepandrue}[2]{}  
139  
140 \renewcommand*\{\setheadfoot}[2]{}  
141 \renewcommand*\{\setheaderspaces}[3]{}  
142 \renewcommand*\{\setmarginnotes}[3]{}  
143 \renewcommand*\{\setfootins}[2]{}  
144 \renewcommand*\{\checkandfixthelayout}[1]{}  
145 \renewcommand*\{\checkthelayout}[1]{}  
146 \renewcommand*\{\fixthelayout}{}  
147 %  
148 % \newlength{\stockheight}  
149 % \newlength{\trimtop}  
150 % \newlength{\trimedge}  
151 % \newlength{\stockwidth}  
152 % \newlength{\spinemargin}  
153 % \newlength{\foremargin}  
154 % \newlength{\uppermargin}  
155 % \newlength{\headmargin}  
156 %  
157 \renewcommand*\{\typeoutlayout}{}  
158 \renewcommand*\{\typeoutstandardlayout}{}  
159 \renewcommand*\{\settypeoutlayoutunit}[1]{}  
160 \renewcommand*\{\fixpdflayout}{}  
161 \renewcommand*\{\fixdvipslayout}{}  
162  
163 \renewcommand*\{\medievalpage}[1]{}  
164 \renewcommand*\{\isopage}[1]{}  
165 \renewcommand*\{\semiisopage}[1]{}  
166
```

```

166
167 \renewcommand{\setpagebl}[3]{}
168 \renewcommand{\setpageml}[3]{}
169 \renewcommand{\setpagetl}[3]{}
170 \renewcommand{\setpagetm}[3]{}
171 \renewcommand{\setpagetr}[3]{}
172 \renewcommand{\setpagemr}[3]{}
173 \renewcommand{\setpagebr}[3]{}
174 \renewcommand{\setpagebm}[3]{}
175 \renewcommand{\setpagecc}[3]{}

```

§ 590.4 Text and fonts

```

176 \let\minuscule\tiny
177 \let\HUGE\Huge
178
179 \renewcommand*{\abnormalparskip}[1]{}
180 \renewcommand*{\nonzeroparskip}(){}
181 \renewcommand*{\traditionalparskip}(){}
182
183 \let\onelineskip\baselineskip
184
185 \let\OnehalfSpacing\onehalfspacing
186 \let[DoubleSpacing\doublespacing
187 \renewcommand*{\setPagenoteSpacing}[1]{}
188 \renewcommand*{\setFloatSpacing}[1]{}

189 \renewcommand{\SingleSpacing}{\@ifstar\singlespacing\singlespacing}
190 \let\setSingleSpace\SetSingleSpace
191 \let\SingleSpace\singlespace
192 \let\endSingleSpace\endsingleSpace
193 \let\Spacing\spacing
194 \let\endSpacing\endspacing
195 \let\OnehalfSpace\onehalfspace
196 \let\endOnehalfSpace\endonehalfspace
197 \csletcs{OnehalfSpace*}{onehalfspace}
198 \csletcs{endOnehalfSpace*}{endonehalfspace}
199 \let\DoubleSpace\doublespace
200 \let\endDoubleSpace\enddoublespace
201 \csletcs{DoubleSpace*}{doublespace}
202 \csletcs{endDoubleSpace*}{enddoublespace}
203 \renewcommand*{\setDisplayskipStretch}[1]{}
204 \renewcommand*{\memdskipstretch}(){}
205 \renewcommand*{\noDisplayskipStretch}(){}
206 \renewcommand*{\memdskips}(){}
207
208 \renewcommand*{\midsloppy}){}
209 \renewenvironment*{\midsloppypar}{}{}
210
211 \renewcommand*{\sloppybottom}){}

```

§ 590.5 Titles

```

212 \csletcs{titlingpage*}{titlingpage}

```

```

213 \csletcs{endtitlingpage*}{endtitlingpage}
214 \let\titlingpageend\relax
215 \newcommand{\titlingpageend}[2]{}
216 \let\andnext\and
217 \renewcommand*{\thanksmarkstyle}[1]{}
218
219 \renewcommand{\thanksfootmark}{%
220   \thanksscript{\tamarck}%
221 }
222
223 % \newlength{\thanksmarksep} already provided by memoir
224 \renewcommand\titlingpageend[2]{}

```

§ 590.6 Abstracts

```

225 \renewcommand*{\abstractcol}{}
226 \renewcommand*{\abstractintoc}{}
227 \renewcommand*{\abstractnum}{}
228 \renewcommand*{\abstractrunin}{}

```

§ 590.7 Document divisions

```

\book * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}
229 \DeclareDocumentCommand{\book}{s d() o o d() m}{%
230   \LWR@section{#1}{#3}{#6}{book}%
231 }

232 \def\@apppage{%
233   \part*{\appendixpagename}
234 }
235 \renewcommand\mempreaddapppagetotochook{}
236 \renewcommand\mempostaddapppagetotochook{}
237
238 \def\@sapppage{%
239   \part*{\appendixpagename}
240 }

241 \DeclareDocumentCommand{\mainmatter}{s}{%
242   \booltrue{\LWR@mainmatter}%
243 }
244
245 \DeclareDocumentCommand{\frontmatter}{s}{%
246   \boolfalse{\LWR@mainmatter}%
247 }

248 \renewcommand*{\raggedbottomsection}{}
249 \renewcommand*{\normalbottomsection}{}
250 \renewcommand*{\bottomsectionskip}{}
251 \renewcommand*{\bottomsectionpenalty}{}
252 \csletcs{appendixpage*}{appendixpage}
253 \renewcommand*{\namedsubappendices}{}
254 \renewcommand*{\unnamedsubappendices}{}

```

```
255 \renewcommand*{\beforebookskip}{}  
256 \renewcommand*{\afterbookskip}{}  
257 \renewcommand*{\beforepartskip}{}  
258 \renewcommand*{\afterpartskip}{}  
259 \renewcommand*{\midbookskip}{}  
260 \renewcommand*{\midpartskip}{}  
261 \renewcommand*{\printbookname}{}  
262 \renewcommand*{\booknamefont}{}  
263 \renewcommand*{\booknamenum}{}  
264 \renewcommand*{\printbooknum}{}  
265 \renewcommand*{\booknumfont}{}  
266 \renewcommand*{\printpartname}{}  
267 \renewcommand*{\partnamefont}{}  
268 \renewcommand*{\partnamenum}{}  
269 \renewcommand*{\printpartnum}{}  
270 \renewcommand*{\partnumfont}{}  
271 \renewcommand*{\printbooktitle}[1]{}  
272 \renewcommand*{\booktitlefont}{}  
273 \renewcommand*{\printparttitle}[1]{}  
274 \renewcommand*{\parttitlefont}{}  
275 \renewcommand*{\bookpageend}{}  
276 \renewcommand*{\bookblankpage}{}  
277 \renewcommand*{\nobookblankpage}{}  
278 \renewcommand*{\partpageend}{}  
279 \renewcommand*{\partblankpage}{}  
280 \renewcommand*{\nopartblankpage}{}  
281 \RenewDocumentCommand{\newleadpage}{s o m m}{}% todo  
282 \RenewDocumentCommand{\renewleadpage}{s o m m}{}% todo  
283 \renewcommand*{\leadpagetoclevel}{chapter}  
284  
285 \renewcommand*{\openright}{}  
286 \renewcommand*{\openleft}{}  
287 \renewcommand*{\openany}{}  
288 \renewcommand*{\clearforchapter}{}  
289 \renewcommand*{\memendofchapterhook}{}  
290 \renewcommand*{\chapterheadstart}{}  
291 % \newlength{\beforechapskip}  
292 \renewcommand*{\afterchaptnum}{}  
293 % \newlength{\midchapskip}  
294 \renewcommand*{\afterchapttitle}{}  
295 % \newlength{\afterchapskip}  
296 \renewcommand*{\printchaptername}{}  
297 \renewcommand*{\chapnamefont}{}  
298 \renewcommand*{\chapnamenum}{}  
299 \renewcommand*{\printchaptnum}{}  
300 \renewcommand*{\chapnumfont}{}  
301 \renewcommand*{\printchapttitle}[1]{}  
302 \renewcommand*{\chapttitlefont}{}  
303 \renewcommand*{\printchaptnonum}{}  
304 \renewcommand*{\indentafterchapter}{}  
305 \renewcommand*{\noindentafterchapter}{}  
306 \renewcommand*{\insertchapterspace}{}  
307  
308 \renewcommand*{\chapterstyle}[1]{}  
309 \renewcommand*{\makechapterstyle}[2]{}  
310
```

```
310 \renewcommand*\{\chapindent}{}  
311 \let\chapterprecis\cftchapterprecis  
312 \let\chapterprecishere\cftchapterprecishere  
313 \let\chapterprecistoc\cftchapterprecistoc  
314 \renewcommand*\{\precisfont}{}  
315 \renewcommand*\{\prechapterprecis}{}  
316 \renewcommand*\{\postchapterprecis}{}  
317 \renewcommand{\precistext}{1}{}  
318 \renewcommand*\{\precistocfont}{}  
319 \renewcommand*\{\precistocformat}{}  
320 % \newlength{\prechapterprecisskip}  
321  
322 \renewcommand*\{\setbeforesecskip}{1}{}  
323 \renewcommand*\{\setaftersecskip}{1}{}  
324 \renewcommand*\{\setsecindent}{1}{}  
325 \renewcommand*\{\setsecheadstyle}{1}{}  
326 \renewcommand*\{\setbeforesubsecskip}{1}{}  
327 \renewcommand*\{\setaftersubsecskip}{1}{}  
328 \renewcommand*\{\setsubsecindent}{1}{}  
329 \renewcommand*\{\setsubsecheadstyle}{1}{}  
330 \renewcommand*\{\setbeforesubsubsecskip}{1}{}  
331 \renewcommand*\{\setaftersubsubsecskip}{1}{}  
332 \renewcommand*\{\setsubsubsecindent}{1}{}  
333 \renewcommand*\{\setsubsubsecheadstyle}{1}{}  
334 \renewcommand*\{\setbeforeparaskip}{1}{}  
335 \renewcommand*\{\setafterparaskip}{1}{}  
336 \renewcommand*\{\setparaindent}{1}{}  
337 \renewcommand*\{\setparaheadstyle}{1}{}  
338 \renewcommand*\{\setbeforesubparaskip}{1}{}  
339 \renewcommand*\{\setaftersubparaskip}{1}{}  
340 \renewcommand*\{\setsubparaindent}{1}{}  
341 \renewcommand*\{\setsubparaheadstyle}{1}{}  
342 \renewcommand{\@hangfrom}{1}{#1}  
343 \renewcommand{\sethangfrom}{1}{}  
344 \renewcommand{\setsecnumformat}{1}{}  
345  
346 \renewcommand*\{\hangsecnum}{}  
347 \renewcommand*\{\defaultsecnum}{}  
348  
349 \renewcommand*\{\sechook}{}  
350 \renewcommand{\setsechook}{1}{}  
351 \renewcommand*\{\subsechook}{}  
352 \renewcommand{\setsubsechook}{1}{}  
353 \renewcommand*\{\subsubsechook}{}  
354 \renewcommand{\setsubsubsechook}{1}{}  
355 \renewcommand*\{\parahook}{}  
356 \renewcommand{\setparahook}{1}{}  
357 \renewcommand*\{\subparahook}{}  
358 \renewcommand{\setsubparahook}{1}{}  
359  
360 \RenewDocumentCommand{\plainbreak}{s m}{\begin{center}\end{center}}  
361  
362 \RenewDocumentCommand{\fancybreak}{s +m}{%  
363     \begin{center}#2\end{center}}%  
364 }
```

```
365
366 \RenewDocumentCommand{\plainfancybreak}{s m m +m}{%
367   \begin{center}#4\end{center}%
368 }
369
370 \RenewDocumentCommand{\pfbreak}{s}{%
371   \begin{center}
372     \pfbreakdisplay
373   \end{center}
374 }
375
376 % \newlength{\pfbreakskip}
377 \renewcommand{\pfbreakdisplay}{*\quad*\quad*}
378
379 \renewcommand{\makeheadstyles}[2]{}
380 \renewcommand*{\headstyles}[1]{}
```

§ 590.8 Pagination and headers

```
381 \renewcommand*{\savepagenumber}{}
382 \renewcommand*{\restorepagenumber}{}
383 \renewcommand*{\uppercaseheads}{}
384 \renewcommand*{\nouppercaseheads}{}
385
386 \renewcommand*{\bookpagemark}[1]{}
387 \renewcommand*{\partmark}[1]{}
388 \renewcommand*{\bibmark}{}
389 \renewcommand*{\indexmark}{}
390 \renewcommand*{\glossarymark}{}
391
392 \LWR@origpagestyle{empty}
393 \renewcommand*{\ps@empty}{}
394 \renewcommand*{\makepagestyle}[1]{}
395 \renewcommand*{\emptypshook}{}
396 % \renewcommand*{\empty@oddhead}{}
397 % \renewcommand*{\empty@oddfoot}{}
398 % \renewcommand*{\empty@evenhead}{}
399 % \renewcommand*{\empty@evenfoot}{}
400 \renewcommand*{@oddhead}{}
401 \renewcommand*{@oddfoot}{}
402 \renewcommand*{@evenhead}{}
403 \renewcommand*{@evenfoot}{}
404 \renewcommand*{\aliaspagestyle}[2]{}
405 \renewcommand*{\copypagestyle}[2]{}
406
407 \renewcommand*{\makeevenhead}[4]{}
408 \renewcommand*{\makeoddhead}[4]{}
409 \renewcommand*{\makeevenfoot}[4]{}
410 \renewcommand*{\makeoddfoot}[4]{}
411 \renewcommand*{\makerunningwidth}[3]{}
412 % \newlength{\headwidth}
413 \renewcommand*{\makeheadrule}[3]{}
414 \renewcommand*{\makefootrule}[3]{}
415 \renewcommand*{\makeheadfootruleprefix}[3]{}
416 % \newlength{\normalrulethickness}
417 % \setlength{\normalrulethickness}{.4pt}
```

```
418 % \newlength{\footruleheight}
419 % \newlength{\footruleskip}
420 \renewcommand*{\makeheadposition}[5]{}
421 \renewcommand{\makepsmarks}[2]{}
422 \renewcommand*{\makeheadfootstrut}[3]{}
423
424 \renewcommand{\createplainmark}[3]{}
425 \renewcommand{\memUchead}[1]{}
426 \renewcommand{\createmark}[5]{}
427 \renewcommand*{\clearplainmark}[1]{}
428 \renewcommand*{\clearmark}[1]{}
429 \renewcommand{\addtopsmarks}[3]{}
430 \renewcommand{\ifonlyfloats}[2]{#2}
431 \renewcommand*{\mergepagefloatstyle}[3]{}
432
433 \renewcommand*{\framepichead}={}
434 \renewcommand*{\framepictextfoot}={}
435 \renewcommand*{\framepichook}={}
436 \renewcommand*{\showheadfootlocoff}={}
437 \renewcommand*{\showtextblocklocoff}={}
```

§ 590.9 Paragraphs and lists

```
438 \renewcommand{\hangfrom}[1]{#1}
439 \let\centerfloat\centering
440 \renewcommand*{\raggedyright}[1][]{}
441 % \newlength{\ragrparindent}
442 \renewcommand{\sourceatright}[2][]{\attribution{#2}}
443 \let\memorigdbs\LWR@endofline
444 \let\memorigpar\par
445 \let\atcentercr\LWR@endofline
446
447 \renewcommand*{\linenottooshort}[1][]{}
448 \renewcommand*{\russianpar}={}
449 \renewcommand*{\lastlinerulefill}={}
450 \renewcommand*{\lastlineparrule}={}
451 \renewcommand*{\justlastraggedleft}={}
452 \renewcommand*{\raggedrightthenleft}={}
453 \renewcommand*{\leftcenterright}={}
454
455 \renewcommand{\leftspringright}[4]{%
456   \begin{minipage}{#1\linewidth}#3\end{minipage}\qquad%
457   \begin{minipage}{#2\linewidth}\begin{flushright}#4\end{flushright}\end{minipage}%
458 }
459
460 \renewenvironment*{blockdescription}
461 {\LWR@descriptionstart\LWR@origdescription}
462 {\enddescription}
463
464 \renewcommand*{\blockdescriptionlabel}[1]{\textbf{#1}}
465 \renewenvironment*{labelled}[1]{\begin{description}}{\end{description}}
466 \renewenvironment*{flexlabelled}[6]{\begin{description}}{\end{description}}
467 \renewcommand*{\tightlists}={}
468 \renewcommand*{\defaultlists}={}
469 \RenewDocumentCommand{\firmlists}{s}{}
470 \renewcommand*{\firmlist}{}%
```

```

471 \renewcommand*\{\tightlist}(){}
472 \renewcommand*\{\zerotrivseps}){}
473 \renewcommand*\{\savetrivseps}){}
474 \renewcommand*\{\restoretrevseps}){}

```

§ 590.10 Contents lists

```

475 \csletcs{tableofcontents*}{tableofcontents}
476 \csletcs{listoffigures*}{listoffigures}
477 \csletcs{listoftables*}{listoftables}
478 \renewenvironment{KeepFromToc}{}{}
479 \renewcommand*\{\onecoltocetc}){}
480 \renewcommand*\{\twocoltocetc}){}
481 \renewcommand*\{\ensureonecol}){}
482 \renewcommand*\{\restorefromonecol}){}
483 \renewcommand*\{\doccoltocetc}){}
484
485 \renewcommand{\tocheadstart}){}
486 \renewcommand{\printtoctitle}[1] {}
487 \renewcommand{\tocmark}){}
488 \renewcommand{\aftertoctitle}){}
489 \renewcommand{\lofheadstart}){}
490 \renewcommand{\printloftitle}[1] {}
491 \renewcommand{\lofmark}){}
492 \renewcommand{\afterloftitle}){}
493 \renewcommand{\lotheadstart}){}
494 \renewcommand{\printlottitle}[1] {}
495 \renewcommand{\lotmark}){}
496 \renewcommand{\afterlottitle}){}
497
498 \renewcommand*\{\setpnumwidth}[1] {}
499 \renewcommand*\{\setrmarg}[1] {}
500 \renewcommand*\{\cftbookbreak}){}
501 \renewcommand*\{\cftpabtbreak}){}
502 \renewcommand*\{\cftchapterbreak}){}
503 % \newlength{\cftbeforebookskip}
504 % \newlength{\cftbookindent}
505 % \newlength{\cftbooknumwidth}
506 \renewcommand*\{\cftbookfont}){}
507 \renewcommand*\{\cftbookname}){}
508 \renewcommand*\{\cftbookpresnum}){}
509 \renewcommand*\{\cftbookaftersnum}){}
510 \renewcommand*\{\cftbookaftersnumb}){}
511 \renewcommand*\{\cftbookleader}){}
512 \renewcommand*\{\cftbookdotsep}[1]
513 \renewcommand*\{\cftbookpagefont}){}
514 \renewcommand*\{\cftbookafterpnum}){}
515 \renewcommand*\{\cftbookformatpnum}[1] {}
516 \renewcommand*\{\cftbookformatpnumhook}[1] {}

```

Part is already defined by `tocloft`.

```

517 % \newlength{\cftbeforechapterskip}
518 % \newlength{\cftchapterindent}

```

```
519 % \newlength{\cftchapternumwidth}
520 \renewcommand*{\cftchapterfont}{}
521 \renewcommand*{\cftchaptername}{}
522 \renewcommand*{\cftchapterpresnum}{}
523 \renewcommand*{\cftchapteraftersnum}{}
524 \renewcommand*{\cftchapteraftersnumb}{}
525 \renewcommand*{\cftchapterleader}{}
526 \renewcommand*{\cftchapterdotsep}{1}
527 \renewcommand*{\cftchapterpagefont}{}
528 \renewcommand*{\cftchapterafterpnum}{}
529 \renewcommand*{\cftchapterformatpnum}[1]{}
530 \renewcommand*{\cftchapterformatpnumhook}[1]{}

531 % \newlength{\cftbeforesections skip}
532 % \newlength{\cftsectionindent}
533 % \newlength{\cftsectionnumwidth}
534 \renewcommand*{\cftsectionfont}{}
535 \renewcommand*{\cftsectionname}{}
536 \renewcommand*{\cftsectionpresnum}{}
537 \renewcommand*{\cftsectionaftersnum}{}
538 \renewcommand*{\cftsectionaftersnumb}{}
539 \renewcommand*{\cftsectionleader}{}
540 \renewcommand*{\cftsectiondotsep}{1}
541 \renewcommand*{\cftsectionpagefont}{}
542 \renewcommand*{\cftsectionafterpnum}{}
543 \renewcommand*{\cftsectionformatpnum}[1]{}
544 \renewcommand*{\cftsectionformatpnumhook}[1]{}

545 % \newlength{\cftbeforesubsections skip}
546 % \newlength{\cftsubsectionindent}
547 % \newlength{\cftsubsectionnumwidth}
548 \renewcommand*{\cftsubsectionfont}{}
549 \renewcommand*{\cftsubsectionname}{}
550 \renewcommand*{\cftsubsectionpresnum}{}
551 \renewcommand*{\cftsubsectionaftersnum}{}
552 \renewcommand*{\cftsubsectionaftersnumb}{}
553 \renewcommand*{\cftsubsectionleader}{}
554 \renewcommand*{\cftsubsectiondotsep}{1}
555 \renewcommand*{\cftsubsectionpagefont}{}
556 \renewcommand*{\cftsubsectionafterpnum}{}
557 \renewcommand*{\cftsubsectionformatpnum}[1]{}
558 \renewcommand*{\cftsubsectionformatpnumhook}[1]{}

559 % \newlength{\cftbeforesubsubsections skip}
560 % \newlength{\cftsubsubsectionindent}
561 % \newlength{\cftsubsubsubsectionnumwidth}
562 \renewcommand*{\cftsubsubsectionfont}{}
563 \renewcommand*{\cftsubsubsubsectionname}{}
564 \renewcommand*{\cftsubsubsubsectionpresnum}{}
565 \renewcommand*{\cftsubsubsubsectionaftersnum}{}
566 \renewcommand*{\cftsubsubsubsectionaftersnumb}{}
567 \renewcommand*{\cftsubsubsubsectionleader}{}
568 \renewcommand*{\cftsubsubsubsectiondotsep}{1}
569 \renewcommand*{\cftsubsubsubsectionpagefont}{}
570 \renewcommand*{\cftsubsubsubsectionafterpnum}{}
571 \renewcommand*{\cftsubsubsubsectionformatpnum}[1]{}
```

```
572 \renewcommand*{\cftsubsubsectionformatpnumhook}[1]{}

573 % \newlength{\cftbeforeparagraphskip}
574 % \newlength{\cftpagrinindent}
575 % \newlength{\cftpagrinwidth}
576 \renewcommand*{\cftpagrinfont}{}%
577 \renewcommand*{\cftpagrinname}{}%
578 \renewcommand*{\cftpagrinpresnum}{}%
579 \renewcommand*{\cftpagrinafersnum}{}%
580 \renewcommand*{\cftpagrinafersnumb}{}%
581 \renewcommand*{\cftpagrinleader}{}%
582 \renewcommand*{\cftpagrindotsep}{1}%
583 \renewcommand*{\cftpagrinpagefont}{}%
584 \renewcommand*{\cftpagrinafersnum}{}%
585 \renewcommand*{\cftpagrinformatpnum}[1]{}%
586 \renewcommand*{\cftpagrinformatpnumhook}[1]{}%

587 % \newlength{\cftbeforesubparagraphskip}
588 % \newlength{\cftsubparagrinindent}
589 % \newlength{\cftsubparagrinwidth}
590 \renewcommand*{\cftsubparagrinfont}{}%
591 \renewcommand*{\cftsubparagrinname}{}%
592 \renewcommand*{\cftsubparagrinpresnum}{}%
593 \renewcommand*{\cftsubparagrinafersnum}{}%
594 \renewcommand*{\cftsubparagrinafersnumb}{}%
595 \renewcommand*{\cftsubparagrinleader}{}%
596 \renewcommand*{\cftsubparagrindotsep}{1}%
597 \renewcommand*{\cftsubparagrinpagefont}{}%
598 \renewcommand*{\cftsubparagrinafersnum}{}%
599 \renewcommand*{\cftsubparagrinformatpnum}[1]{}%
600 \renewcommand*{\cftsubparagrinformatpnumhook}[1]{}%

601 % \newlength{\cftbeforefigureskip}
602 % \newlength{\cftfigureindent}
603 % \newlength{\cftfigurenumwidth}
604 \renewcommand*{\cftfigurefont}{}%
605 \renewcommand*{\cftfigurename}{}%
606 \renewcommand*{\cftfigurepresnum}{}%
607 \renewcommand*{\cftfigureafersnum}{}%
608 \renewcommand*{\cftfigureafersnumb}{}%
609 \renewcommand*{\cftfigureleader}{}%
610 \renewcommand*{\cftfiguredotsep}{1}%
611 \renewcommand*{\cftfigurepagefont}{}%
612 \renewcommand*{\cftfigureafersnum}{}%
613 \renewcommand*{\cftfigureformatpnum}[1]{}%
614 \renewcommand*{\cftfigureformatpnumhook}[1]{}%

615 % \newlength{\cftbeforesubfigureskip}
616 % \newlength{\cftsubfigureindent}
617 % \newlength{\cftsubfigurenumwidth}
618 \newcommand*{\cftsubfigurefont}{}%
619 \newcommand*{\cftsubfigurename}{}%
620 \newcommand*{\cftsubfigurepresnum}{}%
621 \newcommand*{\cftsubfigureafersnum}{}%
622 \newcommand*{\cftsubfigureafersnumb}{}%
623 \newcommand*{\cftsubfigureleader}{}%
```

```
624 \newcommand*{\cftsubfiguredotsep}{1}
625 \newcommand*{\cftsubfigurepagefont}{}
626 \newcommand*{\cftsubfigureafterpnum}{}
627 \newcommand*{\cftsubfigureformatpnum}[1]{}
628 \newcommand*{\cftsubfigureformatpnumhook}[1]{}

629 % \newlength{\cftbeforetables skip}
630 % \newlength{\cfttableindent}
631 % \newlength{\cfttablenumwidth}
632 \renewcommand*{\cfttablefont}{}
633 \renewcommand*{\cfttablename}{}
634 \renewcommand*{\cfttablepresnum}{}
635 \renewcommand*{\cfttableaftersnum}{}
636 \renewcommand*{\cfttableaftersnumb}{}
637 \renewcommand*{\cfttableleader}{}
638 \renewcommand*{\cfttabledotsep}{1}
639 \renewcommand*{\cfttablepagefont}{}
640 \renewcommand*{\cfttableafterpnum}{}
641 \renewcommand*{\cfttableformatpnum}[1]{}
642 \renewcommand*{\cfttableformatpnumhook}[1]{}

643 % \newlength{\cftbeforesubtables skip}
644 % \newlength{\cftsubtableindent}
645 % \newlength{\cftsubtablenumwidth}
646 \newcommand*{\cftsubtablefont}{}
647 \newcommand*{\cftsubtablename}{}
648 \newcommand*{\cftsubtablepresnum}{}
649 \newcommand*{\cftsubtableaftersnum}{}
650 \newcommand*{\cftsubtableaftersnumb}{}
651 \newcommand*{\cftsubtableleader}{}
652 \renewcommand*{\cftsubtabledotsep}{1}
653 \renewcommand*{\cftsubtablepagefont}{}
654 \renewcommand*{\cftsubtableafterpnum}{}
655 \renewcommand*{\cftsubtableformatpnum}[1]{}
656 \renewcommand*{\cftsubtableformatpnumhook}[1]{}

657 \renewcommand*{\booknumberline}[1]{}
658 \renewcommand*{\partnumberline}[1]{}
659 \renewcommand*{\chapternumberline}[1]{}
660 \renewcommand*{\numberlinehook}[1]{}
661 % \renewcommand*{\cftwhatismyname}{}
662 \renewcommand*{\booknumberlinehook}[1]{}
663 \renewcommand*{\partnumberlinehook}[1]{}
664 \renewcommand*{\chapternumberlinehook}[1]{}
665 \renewcommand{\numberlinebox}[2]{}
666 \renewcommand{\booknumberlinebox}[2]{}
667 \renewcommand{\partnumberlinebox}[2]{}
668 \renewcommand{\chapternumberlinebox}[2]{}
669 %
670 % \newlength{\cftparskip}
671 \renewcommand*{\cftpagenumbersoff}[1]{}
672 \renewcommand*{\cftpagenumberson}[1]{}
673 \renewcommand*{\cftlocalchange}[3]{}
674 \renewcommand*{\cftaddtitleline}[4]{}
675 \renewcommand*{\cftaddnumtitleline}[4]{}
676 \renewcommand{\cftinsertcode}[2]{}
```

```

677 \renewcommand{\cftinserthook}[2]{}
678 \renewcommand{\settocpreprocessor}[2]{}
679 \DeclareRobustCommand{\cftpagenumbersoff}[1]{}
680 \DeclareRobustCommand{\cftpagenumberson}[1]{}

```

§ 590.11 Floats and captions

```

\newfloat  [\langle 1: within\rangle] {\langle 2: type\rangle} {\langle 3: ext\rangle} {\langle 4: capname\rangle}
681 \RenewDocumentCommand{\newfloat}{o m m m}{%
682     \IfValueTF{\#1}{%
683         {\DeclareFloatingEnvironment[fileext=\#3,within=\#1,name=\#4]\{\#2}\%}%
684         {\DeclareFloatingEnvironment[fileext=\#3,name=\#4]\{\#2}\%}%
685     \cslet{listof\#2s}\relax%
686     \cslet{listof\#2es}\relax%
687 }

```

`\newfloat` package automatically creates the `\listof` command for new floats, but `float` does not, so remove `\listof` here in case it is manually created later.

```
\newlistof  [\langle within\rangle] {\langle type\rangle} {\langle ext\rangle} {\langle listofname\rangle}
```

Emulated through the `\newfloat` mechanism. Note that `memoir` uses a different syntax than `tocloft` for the name.

```

688 \RenewDocumentCommand{\newlistof}{o m m m}{%
689 {%
690     \IfValueTF{\#1}{%
691         {\newlistentry[\#1]{\#2}{\#3}{0}}\%
692         {\newlistentry[\#2]{\#3}{0}}\%
693     \namedef{ext@\#2}{\#3}\%
694     \ifundefined{c@\#3depth}{\newcounter{\#3depth}}\%
695     \setcounter{\#3depth}{1}\%
696     \namedef{\#3mark}\%
697     \namedef{\#2}{\listof{\#2}{\#4}}\%
698     \namedef{@cftmake\#3title}\%
699     \ifdefined{cftbefore\#3titleskip}\%
700         \expandafter\newlength\csname cftbefore\#3titleskip\endcsname\%
701         \expandafter\newlength\csname cftafter\#3titleskip\endcsname\%
702     \{}\%
703     \namedef{cft\#3titlefont}\%
704     \namedef{cftafter\#3title}\%
705     \namedef{cft\#3prehook}\%
706     \namedef{cft\#3posthook}\%
707 }

```

```
708 \renewcommand{\setfloatadjustment}[2]{}
```

Borrowed from the `lwarp` version of `keyfloat`:

```

709 \NewDocumentEnvironment{KFLTmemoir@marginfloat}{O{-1.2ex} m}{%
710 {%
711     \LWR@BlockClassWP{float:right; width:2in; margin:10pt}{\marginblock}\%
712     \captionsetup{type=\#2}\%
713 }

```

```
714 {%
715     \endLWR@BlockClassWP%
716 }
717
718 \DeclareDocumentEnvironment{marginfigure}{o}
719   {\begin{KFLTmemoir@marginfloat}{figure}}
720   {\end{KFLTmemoir@marginfloat}}
721
722 \DeclareDocumentEnvironment{margintable}{o}
723   {\begin{KFLTmemoir@marginfloat}{table}}
724   {\end{KFLTmemoir@marginfloat}}

725 \renewcommand{\setmarginfloatcaptionadjustment}[2]{}
726 \renewcommand{\setmpjustification}[2]{}
727 \renewcommand*{\mpjustification}(){}
728 \renewcommand*{\setfloatlocations}[2]{}
729 \DeclareDocumentCommand{\suppressfloats}{o}{}
730 \renewcommand*{\FloatBlock}={}
731 \renewcommand*{\FloatBlockAllowAbove}={}
732 \renewcommand*{\FloatBlockAllowBelow}={}
733 \renewcommand*{\setFloatBlockFor}={}
734
735 \renewcommand{\captiontitlefinal}[1]{}
736
737 \renewcommand{\fleitable}{\tablename}
738 \renewcommand{\flefigure}{\figurename}
739 \renewcommand{\fletoctable}={}
740 \renewcommand{\fletocfigure}={}
```

\subfloat is from the subcaption package.

```
741 \renewcommand{\subcaption}[2][]{%
742     \ifblank{#1}{\subfloat[#2]{}{\subfloat[#1][#2]{}%}
743 }
744
745 \renewcommand{\contsubcaption}{\ContinuedFloat\subcaption}
746
747 \LetLtxMacro{\subcaptionref}{\subref}
748
749 \renewcommand*{\tightsubcaptions} {}
750 \renewcommand*{\loosesubcaptions} {}
751
752 \renewcommand*{\subcaptionsize}[1]{}
753 \renewcommand*{\subcaptionlabelfont}[1]{}
754 \renewcommand*{\subcaptionfont}[1]{}
755 \renewcommand*{\subcaptionstyle}[1]{}
756
757 \renewcommand*{\hangsubcaption} {}
758 \renewcommand*{\shortsubcaption} {}
759 \renewcommand*{\normalsubcaption} {}
760
761 \RenewDocumentEnvironment{sidecaption}{o m o}
762 {}
763 {%
764     \IfValueTF{#1}{\caption[#1]{#2}}{\caption{#2}}%
```

```
765     \IfValueT{#3}{\label{#3}}%
766 }
767
768 % \newlength{\sidecapwidth}
769 % \newlength{\sidecapsep}
770 \renewcommand*\setsidecaps[2]{}
771 \renewcommand*\sidecapmargin[1]{}
772 % \newif\ifscapmargleft
773 \scapmargleftfalse
774 \renewcommand*\setsidecappos[1]{}
775
776 \RenewDocumentEnvironment{sidecontcaption}{m o}
777 {}
778 {%
779     \ContinuedFloat%
780     \caption{#1}%
```

Without \@capttype, the section is referred to instead.

```
781     \IfValueT{#2}{\label[\@capttype]{#2}}%
782 }
```

\sidenamelegend does not appear to use the toc argument.

```
783 \renewenvironment{sidenamelegend}[2][]{
784     \begin{center}
785         \@nameuse{@capttype name}\CaptionSeparator#2
786     \end{center}
787 }
788 {}
789
790 \renewenvironment{sidelegend}[1]
791 {\begin{center}
792     #1
793
794 }
795 {\end{center}}
796
797 \renewcommand*\sidecapstyle{}
798 \renewcommand*\overridescapmargin[1]{}
799 % \newlength{\sidecappraise}
800 \renewcommand*\sidecapfloatwidth{\linewidth}
801
802 \LetLtxMacro{\ctabular}{\tabular}
803 \LetLtxMacro{\endctabular}{\endtabular}
804
805 \renewcommand{\autorows}[5][]{%
806     #5%
807 }
808
809 \renewcommand{\autocols}[5][]{%
810     #5%
811 }
```

§ 590.12 Page notes

```
812 \renewcommand{\feetabovefloat}{}
813 \renewcommand{\feetbelowfloat}{}
814 \renewcommand{\feetatbottom}{}
815
816 \renewcommand{\verbfootnote}[2][]{%
817     \PackageError{lwarf,memoir}%
818     {Verbatim footnotes are not yet supported by lwarf.}%
819     {This may be improved some day.}%
820 }
821
822 \renewcommand{\plainfootnotes}{}
823 \renewcommand{\twocolumnfootnotes}{}
824 \renewcommand{\threecolumnfootnotes}{}
825 \renewcommand{\paragraphfootnotes}{}
826 \renewcommand{\footfudgefiddle}{}
827
828 \renewcommand{\newfootnoteseries}[1]{%
829     \PackageError{lwarf,memoir}%
830     {Memoir footnote series are not yet supported by lwarf.}%
831     {This may be improved some day.}%
832 }
833
834 \renewcommand{\plainfootstyle}[1]{}
835 \renewcommand{\twocolumnfootstyle}[1]{}
836 \renewcommand{\threecolumnfootstyle}[1]{}
837 \renewcommand{\paragraphfootstyle}[1]{}
838
839 \renewcommand{\footfootmark}{}
840 \renewcommand{\footmarkstyle}[1]{}
841
842 % \newlength{\footmarkwidth}
843 % \newlength{\footmarksep}
844 % \newlength{\footparindent}
845
846 \renewcommand{\foottextfont}{}
847
848 \renewcommand{\marginparmargin}[1]{}
849 \renewcommand{\sideparmargin}[1]{}
850
851 \LetLtxMacro{\sidepar}{\marginpar}
852 \renewcommand{\sideparfont}{}
853 \renewcommand{\sideparform}{}
854 \LWR@providelength{\sideparvshift}
855
856 \renewcommand{\parnopar}{}
857
858 \renewcommand{\sidebar}[1]{\begin{quote}\#1\end{quote}}
859 \renewcommand{\sidebarmargin}[1]{}
860 \renewcommand{\sidebarfont}{}
861 \renewcommand{\sidebarform}{}
862 % \newlength{\sidebarhsep}
863 % \newlength{\sidebarvsep}
864 % \newlength{\sidebarwidth}
865 % \newlength{\sidebartopsep}
```

```

866 \renewcommand{\setsidebarheight}[1]{}
867 \renewcommand*{\setsidebars}[6]{}
868 \renewcommand*{\footnotesatfoot}(){}
869 \renewcommand*{\footnotesinmargin}){}
870
871 \LetLtxMacro{\sidefootnote}{\footnote}
872 \LetLtxMacro{\sidefootnotemark}{\footnotemark}
873 \LetLtxMacro{\sidefootnotetext}{\footnotetext}
874
875 \renewcommand*{\sidefootmargin}[1]{}
876 % \newlength{\sidefoothsep}
877 % \newlength{\sidefootvsep}
878 % \newlength{\sidefootwidth}
879 % \newlength{\sidefootadjust}
880 % \newlength{\sidefootheight}
881 \renewcommand*{\setsidefootheight}[1]{}
882 % \renewcommand*{\sidefootfont}{}% in docs but not in the package
883 \renewcommand*{\setsidefeet}[6]{}
884 \renewcommand*{\sidefootmarkstyle}[1]{}
885 \renewcommand*{\sidefoottextfont}){}
886 \renewcommand*{\sidefootform}){}
887
888 \renewcommand*{\continuousnotenums}{\pncntopttrue}% from pagenote
889 \renewcommand*{\notepageref}){}
890 \renewcommand*{\prenotetext}){}
891 \renewcommand*{\postnotetext}){}
892 \renewcommand*{\idtextinnotes}[1]{}
893 \renewcommand*{\printpageinnotes}[1]{}
894 \renewcommand*{\printpageinnoteshyperref}[1]{}
895 \renewcommand*{\foottopagenote}){}
896 \renewcommand*{\pagetofootnote}){}

```

§ 590.13 Decorative text

```

897 \renewcommand*{\epigraphposition}[1]{}
898 \renewcommand*{\epigraphtextposition}[1]{}
899 \renewcommand*{\epigraphsourceposition}[1]{}
900 \renewcommand*{\epigraphfontsize}[1]{}
901 \renewcommand*{\epigraphforheader}[2][]{}
902 \renewcommand*{\epigraphpicture}){}

```

§ 590.14 Poetry

```

903 \renewcommand*{\vinphantom} {}
904 \renewcommand*{\vleftofline}[1]{\#1}
905 % \let\linenumberfrequency\poemlines
906 % \renewcommand*{\linenumberfont}[1]{}
907
908 \DeclareDocumentCommand{\PoemTitle}{s o o m}{%
909     \IfValueTF{\#2}{%
910         {\poemtitle[\#2]{\#4}}% 
911         {\poemtitle{\#4}}% 
912     }%
913 }
914 \renewcommand*{\NumberPoemTitle}){}

```

```

915 \renewcommand*\{\PlainPoemTitle\}{}  

916 \renewcommand*\{\poemtitlepstyle\}{}  

917 \renewcommand*\{\poemtitlestarmark\}[1]{}  

918 \renewcommand*\{\poemtitlestarpstyle\}{}  

919 \renewcommand*\{\PoemTitleheadstart\}{}  

920 \renewcommand*\{\printPoemTitlenum\}{}  

921 \renewcommand*\{\printPoemTitlenum\}{}  

922 \renewcommand*\{\afterPoemTitlenum\}{}  

923 \renewcommand*\{\printPoemTitletitle\}[1]{}  

924 \renewcommand*\{\afterPoemTitle\}{}  

925 \newlength{\midpoemtitleskip}  

926 \renewcommand*\{\PoemTitlenumfont\}{}  

927 \renewcommand*\{\PoemTitlefont\}{}  


```

§ 590.15 Boxes, verbatims and files

```

928 \renewenvironment{qframe}{\framed}{\endframed}  

929 \renewenvironment{qshade}{\shaded}{\endshaded}

```

Use the `comment` package:

```

930 \renewcommand*\{\commentsoff\}[1]{\includecomment{\#1}}  

931 \renewcommand*\{\commentson\}[1]{\excludecomment{\#1}}  

932 \LetLtxMacro\renewcomment\commentson  

933  

934 \renewcommand*\{\setverbatimfont\}[1]{}  

935 \renewcommand*\{\tabson\}[1]{}  

936 \renewcommand*\{\tabsoff\}{}  

937 \renewcommand*\{\wrappingon\}{}  

938 \renewcommand*\{\wrappingoff\}{}  

939 \renewcommand*\{\verbatimindent\}{}  

940 \renewcommand*\{\verbatimbreakchar\}[1]{}  

941 \DefineVerbatimEnvironment{fboxverbatim}{Verbatim}{frame=single}

```

`boxedverbatim` is already defined by `moreverb`. `boxedverbatim*` does not appear to work at all, even in a minimal print `memoir` document.

```

942 \renewcommand*\{\bvbox\}{}  

943 \renewcommand*\{\bvtopandtail\}{}  

944 \renewcommand*\{\bvsides\}{}  

945 \renewcommand*\{\nobvbox\}{}  

946 % \newlength\b vboxsep  

947 \renewcommand*\{\bvtoprulehook\}{}  

948 \renewcommand*\{\bvtopmidhook\}{}  

949 \renewcommand*\{\b vendrulehook\}{}  

950 \renewcommand*\{\b vleftsidehook\}{}  

951 \renewcommand*\{\b vrightsidehook\}{}  

952 \renewcommand*\{\b vperpagetrue\}{}  

953 \renewcommand*\{\b vperpagefalse\}{}  

954 \renewcommand{\b vtopofpage\}[1]{}  

955 \renewcommand{\b vendofpage\}[1]{}  

956 \renewcommand*\{\linenumberfrequency\}[1]{}  

957 \renewcommand*\{\resetbvlinenumber\}{}  

958 \renewcommand*\{\setbvlinenums\}[2]{}  


```

```

959 \renewcommand*\{\linenumberfont}[1]{}
960 \renewcommand*\{\bvnumpbersinside}{}
961 \renewcommand*\{\bvnumpbersoutside}{}

```

§ 590.16 Cross referencing

```

962 \renewcommand*\{\ref}[1]{\cref{#1}}
963 \renewcommand*\{\tref}[1]{\cref{#1}}
964 \renewcommand*\{\pref}[1]{\cpageref{#1}}
965 \renewcommand*\{\Aref}[1]{\cref{#1}}
966 \renewcommand*\{\Bref}[1]{\cref{#1}}
967 \renewcommand*\{\Pref}[1]{\cref{#1}}
968 \renewcommand*\{\Sref}[1]{\cref{#1}}
969 \renewcommand*\{\figurerefname}{Figure}
970 \renewcommand*\{\tablerefname}{Table}
971 \renewcommand*\{\pagerefname}{page}
972 \renewcommand*\{\bookrefname}{Book~}
973 \renewcommand*\{\partrefname}{Part~}
974 \renewcommand*\{\chapterrefname}{Chapter~}
975 \renewcommand*\{\sectionrefname}{\S}
976 \renewcommand*\{\appendixrefname}{Appendix~}
977 \LetLtxMacro\titleref\nameref
978 \renewcommand*\{\headnameref}{}
979 \renewcommand*\{\tocnameref}{}
980
981 \providecounter{LWR@currenttitle}
982
983 \renewcommand*\{\currenttitle}{%
984     \addtocounter{LWR@currenttitle}{1}%
985     \label{currenttitle}\arabic{LWR@currenttitle}}%
986     \nameref{currenttitle}\arabic{LWR@currenttitle}}%
987 }
988
989 \renewcommand*\{\theTitleReference}[2]{}
990 \renewcommand*\{\namerefon}{}
991 \renewcommand*\{\namerefoff}{}

```

§ 590.17 Back matter

Redefined to write the LWR@autoindex counter instead of page. Note that memoir has two versions, depending on the use of hyperref.

```

992 \AtBeginDocument{
993
994 \def\@wrindexhyp#1|||\{\%
995     \addtocounter{LWR@autoindex}{1}%
996     \LWR@new@label_{\LWRindex-\arabic{LWR@autoindex}}%
997 %     \ifshowindexmark\@showidx{#1}\fi
998     \protected@write\@auxout{\}%
999 %         {\string\@wrindexm@#1{\thepage}}%
1000         {\string\@wrindexm@#1{\arabic{LWR@autoindex}}}%
1001 \endgroup
1002 \esphack}%

```

\specialindex behaves like a regular \index, pointing to where \specialindex is used. If \specialindex is used inside a figure or table after the \caption, then the hyperlink will be given the name of that particular figure or table.

```

1003 \def\@wrspindexhyp#1| |\{\%
1004   \addtocounter{LWR@autoindex}{1}%
1005   \LWR@new@label{LWRindex-\arabic{LWR@autoindex}}%
1006 %     \ifshowindexmark\@showidx{\#1}\fi
1007   \protected@write\@auxout{\}%
1008 %     {\string\@wrindexm@{\@idxfile}{\#1}{\@nameuse{the\@sptheidx}}}\%
1009     {\string\@wrindexm@{\@idxfile}{\#1}{\arabic{LWR@autoindex}}}\%
1010   \endgroup
1011   \@esphack}%
1012
1013 }% \AtBeginDocument

```

Patched to append _html to the file:

```

1014 \renewcommand{\@spindex}[2]{%
1015   \@ifundefined{\#1@idxfile}%
1016   {\@ifreportnoidxfile
1017     \@memwarn{Undefined index file #1}%
1018     \fi
1019     \begingroup
1020     \@sanitize
1021     \@nowrindex}%
1022   {\def@\idxfile{\#1_html}%
1023    \def@\sptheidx{\#2}%
1024    \begingroup
1025    \@sanitize
1026    \@wrspindex}%

```

Patched to use _html filename and \BaseJobname:

```

1027 \catcode`\_=12%
1028 \renewcommand{\makeindex}[1][\BaseJobname]{%
1029   \if@files
1030     \def\gindex{\@bsphack%
1031       \@ifnextchar [{\@index}{\@index[\BaseJobname]}}%
1032     \def\specialindex{\@bsphack\@spindex}%
1033     \makememindexhook
1034     \expandafter\newwrite\csname #1@idxfile\endcsname
1035     \expandafter\immediate\openout \csname #1@idxfile\endcsname #1_html.idx\relax
1036     \typeout{Writing index file #1_html.idx }%
1037     \fi}
1038 \catcode`\_=8%

```

Patched to use _html filename and \BaseJobname. This will later be patched by the lwarp core.

```

1039 \catcode`\_=12%
1040 \renewcommand{\printindex}[1][\BaseJobname]{\@input{\#1_html.ind}}
1041 \catcode`\_=8%

```

```

1042 \DeclareDocumentCommand{\newblock}{}{}
1043 %
1044 \renewcommand*{\showindexmarks}{}
1045 \renewcommand*{\hideindexmarks}{}
1046
1047 \renewcommand*{\xindyindex}{}

```

§ 590.18 Miscellaneous

```

1048 \renewcommand*{\changemarks}{}
1049 \renewcommand*{\nochangemarks}{}
1050 \renewcommand*{\added}[1]{}
1051 \renewcommand*{\deleted}[1]{}
1052 \renewcommand*{\changed}[1]{}
1053
1054 \renewcommand*{\showtrimsoff}{}
1055 \renewcommand*{\showtrimson}{}
1056 \renewcommand*{\trimXmarks}{}
1057 \renewcommand*{\trimLmarks}{}
1058 \renewcommand*{\trimFrame}{}
1059 \renewcommand*{\trimNone}{}
1060 \renewcommand*{\trimmarkscolor}{}
1061 \renewcommand*{\trimmarks}{}
1062 \renewcommand*{\tmarktl}{}
1063 \renewcommand*{\tmarktr}{}
1064 \renewcommand*{\tmarkbr}{}
1065 \renewcommand*{\tmarkbl}{}
1066 \renewcommand*{\tmarktm}{}
1067 \renewcommand*{\tmarkmr}{}
1068 \renewcommand*{\tmarkbm}{}
1069 \renewcommand*{\tmarkml}{}
1070 \renewcommand*{\trimmark}{}
1071 \renewcommand*{\quarkmarks}{}
1072 \renewcommand*{\registrationColour}[1]{}
1073
1074 \renewcommand*{\leavespergathering}[1]{}
1075
1076 \renewcommand*{\noprelistbreak}{}
1077
1078 \renewcommand*{\cleartorecto}{}
1079 \renewcommand*{\cleartoverso}{}
1080
1081 \renewenvironment{vplace}[1][]{}

```

§ 590.19 ccaption emulation

```

1082 \renewcommand*{\captiondelim}[1]{\renewcommand*{\CaptionSeparator}{#1}}
1083 \renewcommand*{\captionnamefont}[1]{}
1084 \renewcommand*{\captiontitlefont}[1]{}
1085 \renewcommand*{\flushleftright}{}
1086 \renewcommand*{\centerlastline}{}
1087 \renewcommand*{\captionstyle}[2][]{}
1088 \DeclareDocumentCommand{\captionwidth}{m}{}
1089 \renewcommand*{\changeCaptionwidth}{}
1090 \renewcommand*{\normalCaptionwidth}{}

```

```

1091 \renewcommand*\{\hangcaption}{}%
1092 \renewcommand*\{\indentcaption}[1]{}%
1093 \renewcommand*\{\normalcaption}{}%
1094 \renewcommand{\precaption}[1]{}%
1095 \renewcommand{\postcaption}[1]{}%
1096 \renewcommand{\midbicaption}[1]{}%
1097 \renewcommand{\contcaption}[1]{%
1098 %    \ContinuedFloat%
1099 %    \caption{#1}%
1100     \begin{LWR@figcaption}% later becomes \caption*
1101     \LWR@isolate{@nameuse{@capttype name}}~%
1102     \thechapter.\the\value{@capttype}\CaptionSeparator\LWR@isolate{#1}%
1103     \end{LWR@figcaption}%
1104 }

1105 \newlength{\abovelegendskip}
1106 \setlength{\abovelegendskip}{0.5\baselineskip}
1107 \newlength{\belowlegendskip}
1108 \setlength{\belowlegendskip}{\abovelegendskip}

```

The extra \\ here forces a
 in HTML when \legend is used in a \marginpar.

```

1109 \renewcommand{\legend}[1]{\begin{center}#1\\\end{center}}
1110
1111 \renewcommand{\namedlegend}[2][]{%
1112     \begin{center}
1113     \@nameuse{fleg@\capttype}\CaptionSeparator#2\\
1114     \end{center}
1115     \@nameuse{flegtoc@\capttype}{#1}
1116 }
1117
1118 \renewcommand{\newfixedcaption}[3][\caption]{%
1119     \renewcommand{\def}{\def@\capttype{#3}#1}%
1120 \renewcommand{\renewfixedcaption}[3][\caption]{%
1121     \renewcommand{\def}{\def@\capttype{#3}#1}%
1122 \renewcommand{\providefixedcaption}[3][\caption]{%
1123     \providecommand{\def}{\def@\capttype{#3}#1}%
1124
1125 \renewcommand{\bitwonumcaption}[6][]{%
1126     \ifblank{#2}{\caption{#3}}{\caption[#2]{#3}}%
1127     \addtocounter{@capttype}{-1}%
1128     \begingroup%
1129     \csdef{@capttype name}{#4}%
1130     \ifblank{#5}{\caption{#6}}{\caption[#5]{#6}}%
1131     \endgroup%
1132     \ifblank{#1}{}{\label{#1}}%
1133 }
1134
1135 \LetLtxMacro\bionumcaption\bitwonumcaption% todo
1136
1137 \renewcommand{\bicaption}[5][]{%
1138     \ifblank{#2}{\caption{#3}}{\caption[#2]{#3}}%
1139     \begin{LWR@figcaption}% later becomes \caption*
1140     \LWR@isolate{#4} % space
1141     \thechapter.\the\value{@capttype}\CaptionSeparator\LWR@isolate{#5}%
1142     \end{LWR@figcaption}%

```

```

1143     \ifblank{#1}{}{\label{#1}}%
1144 }
1145
1146 \renewcommand{\bicontcaption}[3]{%
1147     \contcaption{#1}%
1148     \begingroup%
1149     \csdef{@capttype name}{#2}%
1150     \contcaption{#3}%
1151     \endgroup%
1152 }

1153 % only in ccaption, not in memoir:
1154 % \LetLtxMacro\longbitwonumcaption\bitwonumcaption%
1155 % \LetLtxMacro\longbionenumcaption\bitwonumcaption%
1156 % \LetLtxMacro\longbicaption\bicaption%
1157
1158 \RenewDocumentCommand{\subtop}{O{} O{} m}{%
1159     \subfloat[#1][#2]{#3}%
1160 }
1161
1162 \RenewDocumentCommand{\subbottom}{O{} O{} m}{%
1163     \subfloat[#1][#2]{#3}%
1164 }

1165 \renewcommand{\contsubtop}{%
1166     \ContinuedFloat
1167     \subtop%
1168 }
1169
1170 \renewcommand{\contsubbottom}{%
1171     \ContinuedFloat
1172     \subbottom%
1173 }

1174 \renewcommand{\subconcluded}{}
1175
1176 \let\contsubtable\contsubtop
1177 \let\contsubfigure\contsubbottom

1178 \newcommand{\newfloatentry}[4][\@empty]{TODO: newfloatentry}
1179 \newcommand{\newfloatlist}[5][\@empty]{TODO: newfloatlist}
1180 \newcommand{\newfloatenv}[4][\@empty]{TODO: newfloatenv}
1181 \DeclareRobustCommand{\newfloatpagesoff}[1]{}
1182 \DeclareRobustCommand{\newfloatpageson}[1]{}
1183 \newcommand{\setnewfloatindents}[3]{}

```

§ 590.20 Final patchwork

```

1184 \newlistof{tableofcontents}{toc}{\contentsname}
1185 \newlistof{listoffigures}{lof}{\listfigurename}
1186 \newlistof{listoftables}{lot}{\listtablename}

```

File 491 **lwarf-common-multimedia.sty**

§ 591 Package **common-multimedia**

Pkg lwarf-common-multimedia Common code for multimedia, movie15, and media9.

The packages multimedia, movie15, and media9 are supported.

HTML5 <audio> and <video> objects are created for .mp3 and .mp4 files.

HTML5 <embed> objects are created for http and ftp links.

\href links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by HTML5.)

For media9, a multimedia object is inserted for each addresource=, as well as each flashvars source= and src=. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside \warpprintonly or the warpprint environment.

Each HTML multimedia object includes the poster text, except for <embed> objects. For movie15, the text option is supported to specify the poster text.

The width, height, and totalheight options are supported. The HTML object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

media9 \addmediopath is supported. It is assumed that the same path structure will exist for the HTML document.

HTML5 media controls are always specified for each <audio> and <video> object.

media9 slideshows are not supported.

\hyperlinkmovie, \movieref, and \mediabutton are not supported.

3D objects are not supported.

If using a YouTube™ video, use an “embedded” URL with .../embed/... instead of .../v/...

for HTML output: 1 \ProvidesPackage{lwarf-common-multimedia}[2019/04/22]

```
2 \RequirePackage{xkeyval}
3
4 \define@key{LWR@multimedia}{width}{\setlength{\LWR@multimedia@width}{#1}}
5 \define@key{LWR@multimedia}{height}{\setlength{\LWR@multimedia@height}{#1}}
6 \define@key{LWR@multimedia}{totalheight}{\setlength{\LWR@multimedia@height}{#1}}
```

```

7 \newlength{\LWR@multimedia@width}
8 \newlength{\LWR@multimedia@height}
9 \newlength{\LWR@multimedia@maxdimension}
```

\LWR@multimedia@printsize Proportional to \linewidth and the viewport's smaller dimension. This scales each object such that it will always fit on the screen, even if a tall or wide object inside a tall or wide viewport.

```

10 \newcommand*{\LWR@multimedia@printsize}{%
11   \setlength{\LWR@multimedia@maxdimension}{%
12     \maxof{%
13       \linewidth}%
14       {\maxof{\LWR@multimedia@width}{\LWR@multimedia@height}}%
15   }%
16   \setlength{\LWR@multimedia@maxdimension}{1.1\LWR@multimedia@maxdimension}%
17   \ifdimgreater{\LWR@multimedia@width}{0pt}{%
18     width:%
19     \LWR@printpercentlength%
20     {\LWR@multimedia@width}%
21     {\LWR@multimedia@maxdimension}vmin ; % space
22   }{%
23   \ifdimgreater{\LWR@multimedia@height}{0pt}{%
24     height:%
25     \LWR@printpercentlength%
26     {\LWR@multimedia@height}%
27     {\LWR@multimedia@maxdimension}vmin ; % space
28   }{%
29 }}
```

\LWR@multimedia@fileAV {⟨poster text⟩} {⟨filename⟩} {⟨audio/video⟩} {⟨mimetype⟩}

Creates a video or audio from a file. The 2019/10 update of the L^AT_EX kernel may cause extra quotes to be added in the filenames. They are removed here.

```

30 \newcommand*{\LWR@multimedia@fileAV}[4]{%
31 \IfFileExists{#2}{% also sets \@filef@und
32 \StrSubstitute[100]{\@filef@und}{""}{\LWR@parsedfilename}}
```

The container <div> is sized as desired.

```

33 \ifstrequal{#3}{audio}{%
34   \begin{BlockClass}{AVviewport}
35 }{%
36   \begin{BlockClass}[\LWR@multimedia@printsize\ margin:auto]{AVviewport}
37 }
```

Paragraph tags are unnecessary for the a/v tags.

```
38 \LWR@stoppars
```

The a/v element is 100% of the container.

```

39 \LWR@htmlltag{%
40   #3\ % space
41   \ifstrequal{#3}{audio}{%
42     width=\textquotedbl{}100\%\textquotedbl\ % space
43     height=\textquotedbl{}100\%\textquotedbl\ % space
```

```

44      }%
45      controls%
46  }\LWR@orignewline

```

The file source and type:

```

47  \LWR@htmltag{%
48      source % space
49      src=\textquotedbl%
50      \LWR@parsedfilename\unskip\textquotedbl\ % space
51      type=\textquotedbl{}#4\textquotedbl}

```

The poster text inside paragraph tags, along with a reference to the file.

```

52  \LWR@startpars
53  \href{\LWR@parsedfilename}{#1}
54  \LWR@stoppars

```

Finish.

```

55  \LWR@htmltag{/#3}\LWR@orignewline
56  \end{BlockClass}
57 }{%
58  \PackageError{lwarp-common-multimedia}
59  {File '#2' not found}
60  {Perhaps an incorrect path?}
61 }%
62 }

```

\LWR@multimedia@httpAV {*poster text*} {*filename*} {*audio/video*} {*mimetype*}

Creates a video or audio from a URL link.

```
63 \newcommand*{\LWR@multimedia@httpAV}[4]{%
```

The container <div> is sized as desired.

```

64  \ifstreq{\#3}{audio}{%
65      \begin{BlockClass}{AVviewport}
66  }{%
67      \begin{BlockClass}[\LWR@multimedia@printsize\ margin:auto]{AVviewport}
68  }

```

Paragraph tags are unnecessary for the A/v tags.

```
69  \LWR@stoppars
```

The A/v element is 100% of the container.

```

70  \LWR@htmltag{%
71      #3\ % space
72      \ifstreq{\#3}{audio}{%
73          width=\textquotedbl{}100\%\textquotedbl\ % space
74          height=\textquotedbl{}100\%\textquotedbl\ controls%
75      }%
76  }\LWR@orignewline

```

The file source and type:

```

77  \LWR@htmltag{%
78      source % space
79      src=\textquotedbl#2\textquotedbl\ % space

```

```
80      type=\textquotedbl#4\textquotedbl}
```

The poster text inside paragraph tags, along with a reference to the URL.

```
81      \LWR@startpars
82      \href{\#2}{\#1}
83      \LWR@stopars
```

Finish.

```
84      \LWR@htmltag{/#3}\LWR@orignewline
85      \end{BlockClass}
86 }
```

\LWR@multimedia@AV {*poster text*} {*filename*} {*audio/video*} {*mimetype*}

Creates an audio or video from a file or a URL.

```
87 \newcommand*{\LWR@multimedia@AV}[4]{%
88     \IfBeginWith{\#2}{http}%
89         {\LWR@multimedia@httpAV{\#1}{\#2}{\#3}{\#4}}%
90     {%
91         \IfBeginWith{\#2}{HTTP}%
92             {\LWR@multimedia@httpAV{\#1}{\#2}{\#3}{\#4}}%
93             {\LWR@multimedia@fileAV{\#1}{\#2}{\#3}{\#4}}%
94     }%
95 }
```

\LWR@multimedia@embed {*poster text*} {*(URL or filename)*} {*mime type*}

Embeds multimedia of an arbitrary type. The poster text is not used, as it would appear along with the video if the <embed> element is supported.

```
96 \newcommand*{\LWR@multimedia@embed}[3]{%
97     \begin{BlockClass}[width:100\%]{AVviewport}%
98     \LWR@stopars
99     \LWR@htmltag{%
100         embed % space
101         \ifblank{\#3}{\type=\textquotedbl#3\textquotedbl\ }%
102         style=\textquotedbl\LWR@multimedia@printsize\ margin:auto\textquotedbl\ % space
103         src=\textquotedbl#2\textquotedbl\ % space
104     }%
105     \LWR@startpars
106     \end{BlockClass}
107 }
```

Error message if the comment character is used among the arguments of \LWR@multimedia@percentererror.

```
108 \newcommand*{\LWR@multimedia@percentererror}{}%
109     \PackageError{lwarp-media9}{%
110     {%
111         Do not use a percent comment
112         between\MessageBreak
113         \protect\includemedia\space arguments%
114     }
115     {Percent is changed to a regular character to allow its use inside a URL.}%
116 }
```

\LWR@multimediab [⟨options⟩] {⟨poster text⟩} {⟨filename⟩}

Creates multimedia. Examines the file extension to determine the type. If not a supported type, creates an embedded object if it has a URL. If neither, create a link to the unsupported object.

117 \newcommand*{\LWR@multimediab}[3][]{%

Error if the percent character appears among the arguments. This could happen since the comment character has been temporarily disabled, for use in a URL.

118 \if#1\@percentchar\LWR@multimedia@percenterror\fi%
 119 \if#2\@percentchar\LWR@multimedia@percenterror\fi%
 120 \if#3\@percentchar\LWR@multimedia@percenterror\fi%

Paragraph handling:

121 \LWR@stoppars%

Record the desired size.

122 \setlength{\LWR@multimedia@width}{0pt}%
 123 \setlength{\LWR@multimedia@height}{0pt}%
 124 \setkeys*{\LWR@multimedia}{#1}%

If a known A/v type, create an HTML5 <video> or <audio>.

125 \IfEndWith{#3}{.mp4}{\LWR@multimedia@AV[#2]{#3}{video}{video/mp4}}{
 126 \IfEndWith{#3}{.MP4}{\LWR@multimedia@AV[#2]{#3}{video}{video/mp4}}{
 127 \IfEndWith{#3}{.mp3}{\LWR@multimedia@AV[#2]{#3}{audio}{audio/mpeg}}{
 128 \IfEndWith{#3}{.MP3}{\LWR@multimedia@AV[#2]{#3}{audio}{audio/mpeg}}{

If an arbitrary URL, embed it.

129 \IfBeginWith{#3}{http}{\LWR@multimedia@embed[#2]{#3}{}}{
 130 \IfBeginWith{#3}{HTTP}{\LWR@multimedia@embed[#2]{#3}{}}{
 131 \IfBeginWith{#3}{ftp}{\LWR@multimedia@embed[#2]{#3}{}}{
 132 \IfBeginWith{#3}{FTP}{\LWR@multimedia@embed[#2]{#3}{}}{

If unknown, create a link to it.

133 \href{#3}{#2} unknown format
 134 }}}}}}}}%

Paragraph handling:

135 \LWR@startpars%
 136 \endgroup%
 137 }

Catcodes which may appear in a URL.

138 \newrobustcmd*{\LWR@multimedia}{%
 139 \begingroup%
 140 \LWR@linkmediacatcodes%
 141 \LWR@multimediab%
 142 }

Change History

§ 592 Chg Hist

For the most recent changes, see page 1174.

v0.10	General: 2016/03/08 Initial version . . . 1	Test Suite: Assigned cleveref name for Test Float. 1
v0.11	General: 2016/03/11 1 Added section: Operating-System portability. 210 Added section: Selecting the operating system. 109 Test Suite: MS-WINDOWS in README.txt 1 Test Suite: Images and index in README.txt 1	Test Suite: Floatrow 1
v0.12	\LWR@newhtmlfile: Bugfix: toc with numbered files. 363 General: 2016/03/14 1 Global: Uses \p@{type} in float captions. 1 Test Suite: Sub-figures 1	v0.15 General: 2016/04/06 1 Added. 755 Ampersand (&): Fixed handling when passed as an argument. 416 Docs: Added warning icons for items needing special attention. 190 Docs: Clarify print/HTML output. 109 Docs: Moved the supported features table to the introduction. 60 Files: l warp_formal.css added. 1 Fix: steps counter 755 Fixed & handling. 753 Test Suite: test_suite_formal.css file added. 1
v0.13	\CaptionSeparator: Fix for newer babel package. 486 \LWR@LwarpStart: \up and \fup 382 General: 2016/03/24 1 Fix dollar-redefined bug for newer package. 1038 Removed package: subfig 1 Test Suite: Ordinals, Subcaption 1	v0.16 General: 2016/04/11 1 \titlingpage: Improved print-output spacing. 389 xfrac: Adjusted for the use of any font. 1098 Added XeLaTeX, LuaLaTeX support. 191 Docs: Font and UTF-8 support. 93 Docs: Moved location of \usepackage{l warp}. 96 Docs: Text not converting. 182 Lwarp no longer selects fonts. 93, 220 Removed package: suffix 1 Test Suite: Improved titlingpage. 389 Test Suite: Lwarp no longer selects fonts. 1 Test Suite: Supports XeLaTeX, LuaLaTeX. 1
v0.14	\LWR@htmlsectionfilename: Fix: Links to home page. 321 General: 2016/03/31 1 floatrow: Added. 751 Docs: Commands for a successful HTML conversion. 113 Docs: Commands into a warpprint environment. 110 Docs: Newclude limitations. 161 Docs: Table: Cross-referencing data structures. 470 Docs: Table: Float data structures. 482 Docs: Trademarks section. 187 Docs: Troubleshooting cross-references. 182	v0.17 \LWR@htmlsectionfilename: Fix: Links when entire doc is one HTML page. 321 General: 2016/04/14 1 mdframed: Added. 851

Test Suite: Fix: Print-version front-matter page numbers.	1	\LWR@filestart: l warp_mathjax.txt loaded.	378
Test Suite: Mdframed	1	\LWR@minipagestartpars: Suppresses paragraph tags between minipages.	579
v0.18		\LWR@subsingleDollar: MATHJAX support.	513
\LWR@myshorttoc: Reorganize \HomeHTMLFilename logic.	490	\LateximageFontSizeName: Add: User-adjustable math/latexitimage font size.	531
\LWR@newhtmlfile: sideroc after title, improving responsive design.	362	\hspace: Fix: \hspace length computations.	580
\LWR@requesttoc: Reorganize \HomeHTMLFilename logic.	383	\minipagefullwidth: Added: No width tag for the next minipage in HTML.	555
\LWR@subhyperref: Improved HTML output linebreaks.	479	\warpHTMLonly: Added.	218
\LWR@subhyperrefclass: Improved HTML output linebreaks.	479	\warpprintonly: Replaces \rowprintedonly.	218
\LWR@subinlineimage: Suppress extra space.	480	\xfracHTMLfontsize: Added.	1098
\hspace: \hspace supported.	580	General: 2016/05/19	1
graphics: Add: svgz file extension.	782	css for table note item.	1036
graphics: Fix: \linewidth, \textwidth, \textheight inside a minipage.	782	MATHJAX support added.	518, 525, 527
graphics: Improved HTML output linebreaks.	782	multirow: Added optional args.	881
graphics: em, ex, %, px dimensions preserved.	782	Adapts to tikz version.	1038
File: l warp.css: Improved toc outline display.	1	Avoids MATHJAX.	506
Files: l warp.css and l warp_formal.css: Improved responsive design.	1	cleveref: Loaded \AtEndPreamble.	550
Microtype disabled during HTML generation	220	Docs: Math options.	96
PDF Unicode input characters.	205	Docs: Table: Cross-referencing data structures, updated.	470
Test Suite: Verse package	1	File: l warp.css: \noteitemheader added.	1
lateximage: pdfcrop: --hires added.	534	Introduction: MATHJAX support mentioned.	57
Reorganize \HomeHTMLFilename logic.	534	Options: mathsvg and mathjax	213
Suppress extra space.	534	Supports colored \rule.	1089
verse: Supports verse, memoir packages.	1075	titles: null \pagestyle and \thispagestyle for HTML	1039
minipage: Fix: \linewidth, \textwidth, \textheight inside a minipage.	556	v0.20	
v0.19		\BlockClassSingle: Renamed from "LWR@htmldivclassline".	334
\HTMLFilename: Docs: Escape filename underscores.	320	\HTMLDescription: Added \NewHTMLdescription. (Renamed in v0.30.)	345
\HomeHTMLFilename: Docs: Escape filename underscores.	320	\HTMLfilename: No longer escape underscores.	320
\LWR@LwarpStart: Enabled \\ equal to \newline.	381	\HomeHTMLfilename: No longer escape underscores.	320
\LWR@dequation: MATHJAX support.	521	\InlineClass: Renamed from "inlineclass".	334
\LWR@doubledollar: MATHJAX support.	515	\LWR@LwarpStart: Fix: math cross references.	382
		\LWR@closeparagraph: \unskip extra spaces.	338

No break tags in the start/end of a tabular.	338
\LWR@endofline: Fix: \\	578
\LWR@filestart: Adds meta description.	378
\LWR@htmldivclass: Added optional style.	332
\LWR@htmlelementclass: Added optional style.	332
\LWR@htmlsectionfilename: HTMLfilename: removed additional trailing ' ', and may be empty.	321
Sections called "Index" or "index" have an underscore prepended to their filenames if no prefix.	321
\LWR@longtabledatacaptiontag: Fix: Pars in captions.	453
\LWR@section: Combined higher-level sections together into files.	369
\LWR@setOSWindows: Auto-detects operating system.	212
\LWR@subhtmlelementclass: Factored code.	332
\SetHTMLFileNumber: Add: Control file numbers.	320
\cpagerefFor: User-redefinable word for page references.	551
\dotfill: Inserts an ellipsis.	578
\hfill: Inserts a \quad.	578
\hrulefill: Inserts a short rule.	578
\hspace: Add: Supports HTML thin breakable space.	580
\hyperindexref: Print mode provided in case hyperref not used.	500
\pageref: Added.	477
\tracingl warp: Added.	234
General: 2017/02/09	1
afterpage: Added.	599, 605
alltt: Added.	610
bookmark: Added.	644
caption and subcaption supported.	1
cleveref and referencing patches:	
Applied \AfterEndPreamble.	551
draftwatermark: Added.	703
eso-pic: Added.	725
everypage: Added.	728
extramarks: Added.	729
fancyhdr: Added.	735
float: Improved float caption type handling.	748
graphics: Fix: Expands filename.	782
graphics: Fix: \linewidth in a floatrow.	782
hyperref: Additional user macros.	792
keyfloat: Added.	809
letterspace: User-interface emulated.	818
listings: Added.	822
ltcaption: Added.	831
l warp-newproject: Added.	246
microtype: User-interface emulated.	867
needspace: Added.	891
nowidow: Added.	905
placeins: Added.	944
ragged2e: Added.	952
setspace: Improved support.	971
textpos: Added.	1030
titlesp: Added.	1039
titlesec: Added.	1042
titletoc: Added.	1044
titling: Improved compatibility.	1046
tocloft: Added.	1054
wallpaper: Added.	1081
wrapfig: Added.	1084
xetexko-vertical: Added.	1097
Added @, <, > columns.	409
Added single-expansion data arrays.	317
Code factored into independent l warp_html files.	594
Docs: Examples for generating HTML file names.	107
Docs: Improved index.	1
Enhanced titling support.	388
File: l warp.css: Minor fixes for validation.	1
File: l warpmk used to compile print, HTML, indexes, and lateximages.	1
Fix: \linewidth in a floatrow.	753
Moved sidebar and example code to test suite.	1
Page geometry set to 6in wide with large margins.	221
Parallel versions of aux files for print/HTML.	1
Removed reliance on make, grep, gawk.	1
Tabular: \unskip extra spaces.	409
Test Suite: HTML meta descriptions.	1
verbatim: Added.	399
BlockClass: Added optional style.	334
Renamed from "blockclass".	334
LWR@nestspan: Fix: Minipages inside a span.	329

v0.21

\LWR@LwarpStart: Changed lateximages to a .txt file.	381
--	-----

\LWR@filestart: Skip title if not given.	378	v0.24	\LWR@htmlfileref: Fix: Index links while \tracinglwarp.	473
\LWR@newhtmlfile: Skip title if not given.	362	\hspace: Add: \hspace \fill converts to 2em	580	
\marginpar: Fixed source listing.	352	\hypertocfloat: List of floats responds to lofdepth, lotdepth.	496	
\marginparBlock: Fixed source listing.	352	General: 2017/03/15	1	
General: 2017/02/23	1	floatrow: Support for subfig.	751	
fontenc: Added.	761	subfig: Added.	1011	
<i>lwarpmk</i> : Fix: <i>lwarpmk again</i> for WINDOWS.	296	tikz: For tikz v3.0.0 or later, auto-loads tikz babel library if necessary.	1038	
<i>lwarpmk</i> : Fix: <i>lwarpmk limages</i> for WINDOWS.	296	Docs: Filename underscore.	101, 115	
<i>lwarpmk</i> : Fix: <i>lwarpmk</i> uses lateximages text file instead of shell script.	296	Fix for inline images.	1038	
Add: Errors for misplaced packages.	191	No longer preloads subcaption; conflicted with subfig.	225	
Docs: Added internet class.	66	picture: Fix for inline images.	553	
Docs: Added TeX2page, GladTeX.	66	v0.25		
Docs: Installing on WINDOWS.	72	\LWR@loadnever: Added the ability to prevent conflicting packages.	193	
File: <i>lwarptutorial.txt</i> added.	76	\addcontentsline: Handles theorems.	488	
v0.22		General: 2016/03/22	1	
\LWR@parseDcolumn: Added tabular D column.	425	amsthm: Added.	614	
\LWR@parsebangcolumn: Added tabular ! column.	421	ellipsis: Added.	710	
\LWR@parsetablecols: Unknown table column types become l. Added tabular D, !, X columns.	429	emptypage: Added.	711	
\LWR@printmccoldata: Added tabular D, !, and X columns.	448	framed: Added.	765	
General: 2017/03/02	1	lips: Added.	822	
abstract: Added.	596	mdframed: Help avoid hyphenation.	853	
changepage: Added.	658	ntheorem: Added.	905	
dcolumn: Added.	698	showidx: Added.	973	
ftnright: Added.	768	theorem: Added.	1031	
geometry: Nullified commands.	770	Basic LATEX theorems: improved css.	400	
layout: Added.	814	Docs: Adds credits for patched code.	1	
lscape: Added.	830	Docs: Testing lwarp.	178	
mcaption: Added.	851	Fix: Allows XELATEX and LuaLATEX to preload graphics and graphicx.	195	
nameref: Added.	888	v0.26		
nextpage: Added.	892	General: 2017/03/31	1	
parskip: Added.	925	<i>lwarpcss</i> : Improved responsive marginpar and marginblock.	253	
showkeys: Added.	973	cutwin: Added.	697	
sidecap: Added.	974	endnotes: Added.	713	
tabularx: Added.	1021	floatflt: Added.	749	
variorref: Supported.	121	footmisc: Added.	761	
verse: Added.	1075	footnotehyper: Added.	764	
v0.23		footnote: Added.	762	
\LWR@parsetablecols: Fix for vert bar column type.	429	marginfix: Added.	843	
\LWR@printmccoldata: Fix for vert bar column type.	448	marginnote: Added.	844	
General: 2017/03/02	1	mparhack: Added.	876	
pagenote: Supported as-is.	919			

sidenotes: Added.	974	tabularx: Fix for optional pos.	1021
Docs: Improved MiKTEX install instructions.	71, 73	tabulary: Added.	1021
Dollar span avoided in a lateximage.	506	<i>lwarpmk</i> : Add: printglossary and htmlglossary commands.	296
Footnotes now are LATEX boxes instead of pagenotes.	346	Added boolean FormatEPUB.	239
lateximage: Labels track page numbers of lateximages.	534	Added boolean FormatWP.	240
Print mode now uses a minipage of \linewidth.	534	Added boolean HTMLDebugComments.	234
picture: Fix for \makebox in picture.	553	Added boolean HTMLMarkFloats, changed to WPMarkFloats as of v0.42.	240
v0.27		Docs: Modfyng lwarpmk and index processing.	178
\LWR@footnotetext: Fix for table footnote par tags.	348	File: lwarpm_mathjax.txt: Updated CDN repository.	294
General: 2017/04/04	1	Forced oneside to maintain large right margin.	221
letrine: Added.	818	v0.29	
microtype: Fix with XeLATEX, LuaLATEX.	867	General: 2017/04/15	1
soul: Added.	995	*.lwarpmkconf: Add: language option for config files.	253
ulem: Added.	1068	<i>lwarpmk.conf</i> : Add: language option for config files.	253
Docs: Installing utilities for MACOS.	74	graphics: Fix: Error when no optional arguments.	782
Docs: Limitations of saveboxes. .	116	<i>lwarpmk</i> : Add: language option for config files.	296
Page geometry modified to reduce line overflow.	221	Add: lwarpmklang option for <i>lwarp</i>	214
v0.28		Docs: Using a glossary	87
\@wrindex: Improved indexing. . .	499	v0.30	
\HTMLAuthor: Added \HTMLauthor. (Renamed in v0.30.)	345	\CSSFilename: Renamed from \NewCSS.	343
\LWR@LwarpEnd: If FormatEPUB or FormatWP, no bottom nav.	384	\HTMLAuthor: Renamed from \HTMLauthor.	345
\LWR@LwarpStart: FormatWordProcessor forces single-file output.	381	\HTMLDescription: Renamed from \NewHTMLdescription.	345
\LWR@filestart: Adds HTML meta author.	378	\HTMLFirstPageTop: Renamed from \SetFirstPageTop.	343
\LWR@forcenewpage: Forces new PDF page before major environments.	325	\HTMLLanguage: Renamed from \MetaLanguage.	377
\LWR@htmlcomment: Breaks ligatures in HTML comments.	331	\HTMLPageBottom: Renamed from \SetPageBottom.	343
\LWR@newhtmlfile: If FormatEPUB or FormatWP: skips headers, footers, nav.	362	\HTMLPageTop: Renamed from \SetPageTop.	343
\LWR@parsetablecols: Added L, C, R, J column types.	429	General: 2017/04/29	1
\LWR@startref: Removed space. .	475	<i>lwarp-newproject</i> removed, and combined with <i>lwarp</i>	246
\chapter: If EPUB, prints footnotes before each section.	376	<i>lwarpmk</i> : Add: xdyfile configuration option.	296
\hyperindexref: Improved indexing.	500	<i>lwarpmk</i> : Fix: <i>xindy</i> and <i>texindy</i> adjusted for <i>pdflatex</i> , <i>xelatex</i> and <i>lualatex</i>	296
\textup: Fixed span class.	567		
General: 2017/04/14	1		
glossaries: Added.	773		
graphics: Adapts to graphics syntax.	782		
graphics: Added.	774		

<i>lwarpmk</i> : Fix: <i>xindy</i> now used for print index generation with <i>latexmk</i>	296	Add: Tabular at and bang columns now have their own HTML columns.	409
<i>lwarpmk</i> : language now used for both index and glossary generation.	296	cleveref: Fix: Loaded \AtEndPreamble.	550
File: <i>l warp_html.xdy</i> renamed to <i>l warp.xdy</i>	292	Fix: Incorrectly-inline math environments.	527
Fix: *.css files only written in print mode.	253	New handling of & to localize catcode changes.	409
Fix: <i>l warp.xdy</i> only written in print mode.	292	v0.34	
Fix: <i>l warp_mathjax.txt</i> : Only written in print mode.	294	\@fnsymbol: Text symbols instead of math.	391
Option <i>lwarpmklang</i> changed to <i>IndexLanguage</i>	214	\InlineClass: Moved optional argument in front of mandatory.	334
Option <i>OSWindows</i> replaces macro <i>\warpOSwindows</i>	215	\LWR@htmldivclass: Moved optional argument in front of mandatory.	332
Option <i>xdyFilename</i> added.	214	\LWR@htmlelementclass: Moved optional argument in front of mandatory.	332
Option <i>latexmk</i> replaces macro <i>\UseLatexmk</i>	216	\LWR@htmlelementclassline: Moved optional argument in front of mandatory.	333
Options <i>HomeHTMLFilename</i> and <i>HTMLFilename</i> replace macros <i>\HomeHTMLFilename</i> and <i>\HTMLFilename</i>	215	\LWR@htmlspanclass: Moved optional argument in front of mandatory.	330
v0.31		\LWR@nullfonts: Improved font control.	569
General: 2017/05/15	1	\LWR@restoreorigformatting: booktabs: Works inside <i>lateximage</i>	502
<i>keyfloat</i> : Improved compatibility.	809	Improved font control.	502
v0.32		\LWR@subhtmlelementclass: Moved optional argument in front of mandatory.	332
\RequirePackage: Fix: Ignores blanks in package list.	229	\LWR@tabledatatabletag: booktabs: Works inside <i>lateximage</i>	460
General: 2016/06/09	1	\fboxBlock: Added.	562
<i>glossaries</i> : Prevent error with <i>\glo@name</i> not defined.	501	\makebox: Fix: Handles paren arg.	560
<i>lwarpmk</i> : Fix: <i>io.lines()</i> changed to <i>file:lines()</i> due to <i>luatex</i> changes.	296	General: 2017/08/08	1
v0.33		babel-french : Adds fixed-width HTML spaces to punctuation.	327
\HTMLAuthor: Fix: Provides empty default author if none given.	345	balance : Added.	633
\LWR@loadbefore: Fix: No <i>\PackageError</i> if already loaded.	193	booktabs: Works inside <i>lateximage</i>	463, 645
\LWR@parseatcolumn: Fix: Column alignment with leftmost @.	420	boxedminipage2e: Added.	647
\LWR@tabledatatablesinglecolumntag: Fix: Macros in tabular could cause extra data cell.	436	crop: Added.	693
\LWR@vspace: Add: \vspace nullified.	582	enumerate: Added.	718
\StartDefiningTabulars: Add: Avoids error: Misplaced alignment tab character &.	317	enumitem: Added, no longer required.	718
General: 2017/07/10	1	everyshi: Added.	728
amsmath : Removed <i>fleqn</i> option.	610	fancybox: Added.	731
<i>fancyhdr</i> : Fix: Optional args for \head, etc.	735	fancyverb: Added, no longer required.	737
		figcaps: Added.	744
		filecontents: Required. Patched for morewrites.	223

floatpag: Added.	750	\LWR@closeparagraph: Extra HTML source space after paragraphs.	338
flushend: Added.	756	\LWR@currenttextcolor: Fix for \rule when xcolor not loaded.	576
fullpage: Added.	768	\LWR@nullfonts: Fix: Filenames while using MATHJAX.	569
hyperxmp: Added.	797	\LWR@restoreorigformatting: siunitx: Improved super/subscripts in a lateximage.	502
idxlayout: Added.	798	\LWR@section: Improved spacing.	369
marginfit: Added.	843	\LWR@stoppars: Extra HTML source space after paragraphs.	341
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General Index

This is an index of instructions and concepts. Look here when wondering how to do something, and check the Troubleshooting Index when something goes wrong.

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Troubleshooting Index

This index is a sorted reference of problems and solutions. In order to make it easier to locate a solution, the same issue may be addressed by more than one entry.

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