

$\text{\LaTeX} 2_{\epsilon}$ Classes for the Journal of
Machine Learning Research (JMLR) and
Proceedings of Machine Learning
Research (PMLR)

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2017-03-09 (version 1.23)

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1 Introduction

The `jmlr` class is for articles that need to be formatted according to the Journal of Machine Learning Research style. This class is based on the `jmlr2e` and `jmlrwcp2e` packages but has been adapted to enable it to work better with the `combine` class to collate the articles into a book. Section 2 describes how to use the `jmlr` class. Note that JMLR W&CP (JMLR: Workshop and Conference Proceedings) will soon be renamed PMLR (Proceedings of Machine Learning Research). The new `pmlr` class option has been added in anticipation of this, but only use it once the official name change has taken place.

The `jmlrbook` class is for combining articles that use the `jmlr` class into a book. The `jmlrbook` class uses `combine` and `hyperref`, which are troublesome enough on their own but together are quite fragile. The `jmlrbook` class redefines some internals to get `combine` and `hyperref` to work together but some packages (e.g. `subfig` and `pdfpages`) are likely to mess everything up and cause errors. This is why the guidelines to authors are fairly stringent and why the `jmlr` class will give an error message if certain packages are loaded.¹ The `jmlrbook` class works best with PDF \LaTeX so authors should ensure that their articles can compile with PDF \LaTeX . Section 3 describes how to use the `jmlrbook` class.

Note that the `jmlr` (and therefore `jmlrbook`) class automatically loads the `hyperref` package, but some packages need to be loaded before `hyperref`.

Anything that needs to be done before `hyperref` is loaded can be specified by defining the command

```
\jmlrprehyperref
```

before the class is loaded. For example, to load the packages `foo` and `bar` before `hyperref`, you can do:

```
\newcommand{\jmlrprehyperref}{\usepackage{foo,bar}}
\documentclass{jmlr}
```

There is a Java application called `makejmlrbookgui` that can compile all the individual papers from the book and generate the bib file for the proceedings (according to the PMLR specifications). It can also create a grey nonhyperlinked PDF/X compliant print version of the book. The application can be downloaded from <http://www.dickimaw-books.com/apps/makejmlrbookgui/> where there is also a [troubleshooting section](#).

¹Currently `jmlr` will check if `subfig`, `pdfpages`, `geometry`, `psfig`, `epsfig`, `theorem`, `tabularx`, `amsthm` and `ntheorem` are loaded and will throw an error. If other packages are found to be a problem, they will be added to the list.

There is also a Perl script called `makejmlrbook`, which is distributed with the `jmlr` and `jmlrbook` bundle, however it has been superseded by `makejmlrbookgui`. Note that PMLR (formerly JMLR W&CP) has new format guidelines that are followed by new versions of `makejmlrbookgui` but not by the Perl script `makejmlrbook`, so that script is no longer documented and may be dropped from future versions of this bundle.

1.1 Required Packages

The `jmlr` class is based on the `article` class and loads the following packages: `amsmath`, `amssymb`, `natbib`, `url`, `graphicx` and `algorithm2e`, `hyperref`, `nameref`, `xcolor` and `xkeyval`. Note that unlike the `jmlr2e` and `jmlrwcp2e` packages, this class file does not load the obsolete `epsfig` package.

The `jmlrbook` class additionally loads the `combine` class and the following packages: `combnat`, `setspace` and `fink`.

The `makejmlrbookgui` application requires Java and \TeX . (GhostScript is also required for the print-ready version of the book.)

2 Guidelines for Article Authors

Article authors should use the `jmlr` class. This class comes with example files `jmlr-sample.tex` and `jmlrwcp-sample.tex`, which can be used as templates.

The following class options are available:

nowcp The article is for the Journal of Machine Learning Research (default).

pmlr The article is for the Proceedings of Machine Learning Research (PMLR).

wcp The article is for JMLR Workshop and Conference Proceedings (JMLR W&CP).

twocolumn Use two-column style.

onecolumn Use one-column style (default).

color Color version (see Section 2.11).

gray Grayscale version (see Section 2.11).

tablecaption=top in a table environment, `\floatconts` puts the caption at the top.

tablecaption=bottom in a table environment, `\floatconts` puts the caption at the bottom.

2.1 Title Information

The `jmlr` class uses different syntax from `jmlr2e` and `jmlrwcp2e` to specify the title information. In particular, it doesn't define `\jmlrheading` and `\ShortHeading`. Instead, the following commands should be used:

`\jmlrvolume`

```
\jmlrvolume{<number>}
```

This specifies the volume number. For example:

```
\jmlrvolume{2}
```

`\jmlryear`

```
\jmlryear{<year>}
```

This specifies the year. For example:

```
\jmlryear{2010}
```

`\jmlrsubmitted`

```
\jmlrsubmitted{<date>}
```

This specifies the submission date.

`\jmlrpublished`

```
\jmlrpublished{<date>}
```

This specifies the publication date.

`\jmlrworkshop`

```
\jmlrworkshop{<title>}
```

This specifies the workshop title (for use with the `wcp` class option).

The title information is specified using the commands described below. These commands should typically go in the preamble. As with most class files, The title itself is produced using

`\maketitle`

```
\maketitle
```

This command should go after `\begin{document}`. For example:

```
\begin{document}
\maketitle
```

Before `\maketitle`, you must specify the title information using the following commands:

`\title`

```
\title[<short title>]{<title>}
```

This specifies the article's title. A short title for the page header can be supplied via the optional argument *<short title>*. If you want to force a line break in the title, use

`\titlebreak`

```
\titlebreak
```

instead of `\newline` or `\\` as this will ensure that the line break doesn't also end up in the table of contents or bookmarks when the article is included in a book. If there is content within the title that should not appear in the page headings or table of contents (for example, a footnote) use

`\titletag`

```
\titletag{<title only stuff>}
```

For example:

```
\title{An Interesting Paper\titlebreak
With a Line Break\titletag{\thanks{and an
acknowledgement}}}
```

`\editor`

```
\editor{<name>}
```

This specifies the editor's name. If there is more than one editor, use:

`\editors` `\editors{<names>}`

`\author` `\author{<author specs>}`

This specifies the author. The specifications *<author specs>* are a bit different to `jmlr2e` and `jmlrwcp2e`. Use

`\Name` `\Name[<abbreviated name>]{<author's name>}`

to specify the author's name. Note that if the surname contains a space it must be grouped (enclosed in braces `{}`). Similarly if the initial letter of each forename is a diacritic it must be grouped. If the abbreviation of the name doesn't get parsed properly you can override the default using the optional argument. (See below for examples.)

If there is any content within *<author's name>* that shouldn't get copied to the header, footer or table of contents, it should be enclosed within the argument of

`\nametag` `\nametag{<title only stuff>}`

For example:

```
\Name{Ann Other\nametag{\thanks{formerly with some other
institute}}}
```

`\Email` `\Email{<author's email>}`

This specifies the author's email address. It should only be used within the argument to `\author`.

`\and` `\and`

This should be used to separate two authors with the same address.

`\AND` `\AND`

This should be used to separate authors with different addresses.

`\` `\`

This should be used before an author's address or between authors with the same address where there are more than two authors.

`\addr` `\addr`

This should be used at the start of the address.

Example 1 Two authors with the same address:

```
\author{\Name{Jane Doe} \Email{abc@sample.com}\and
\Name{John {Basey Fisher}} \Email{xyz@sample.com}}\
\addr Address}
```

In this example, the second author has a space in his surname so the surname needs to be grouped.

Example 2 Three authors with the same address:

```
\author{\Name{Fred Arnold {de la Cour}} \Email{an1@sample.com}}\
\Name{Jack Jones} \Email{an3@sample.com}}\
\Name{{\ 'E}louise {\ 'E}abhla Finchley} \Email{an2@sample.com}}\
\addr Address}
```

In this example, the third author has an accent on her forename initials so grouping is required.

Example 3 Authors with a different address:

```
\author{\Name{John Smith} \Email{abc@sample.com}}\
\addr Address 1
\AND
\Name{May Brown} \Email{xyz@sample.com}}\
\addr Address 2
}
```

Example 4 The author is actually a company so there's no first name and surname:

```
\author{\Name[Some Company, Ltd]{Some Company, Ltd}\Email{xyz:some.com}}\
\addr Address
}
```

2.2 Font Changing Commands

Use the $\LaTeX 2_{\epsilon}$ font changing commands, such as `\bfseries` or `\textbf{<text>}`, rather than the obsolete $\LaTeX 2.09$ commands, such as `\bf`. (The obsolete font changing commands will produce a warning if used.)

`\url`

```
\url{<address>}
```

This will typeset `<address>` in a typewriter font. Special characters, such as `~`, are correctly displayed. Example:

```
\url{http://theoval.cmp.uea.ac.uk/~nlct/}
```

`\mailto`

```
\mailto{email address}
```

This will typeset the given email address in a typewriter font. Note that this is not the same as `\Email`, which should only be used in the argument of `\author`.

2.3 Structure

`abstract`

```
\begin{abstract}  
text  
\end{abstract}
```

The abstract text should be displayed using the abstract environment.

`keywords`

```
\begin{keywords}keyword list\end{keywords}
```

The keywords should be displayed using the keywords environment.

`\acks`

```
\acks{text}
```

This displays the acknowledgements.

`\section`

```
\section{title}
```

Section titles are created using `\section`. The heading is automatically numbered and can be cross-referenced using `\label` and `\ref`. Unnumbered sections can be produced using:

`\section*`

```
\section*{title}
```

`\subsection`

```
\subsection{title}
```

Sub-section titles are created using `\subsection`. Unnumbered sub-sections can be produced using:

`\subsection*`

```
\subsection*{title}
```

`\subsubsection`

```
\subsubsection{title}
```

Sub-sub-section titles are created using `\subsubsection`. Unnumbered sub-sub-sections can be produced using:

`\subsubsection*`

```
\subsubsection*{title}
```

Further sectioning levels can be obtained using `\paragraph` and `\subparagraph`, but these are unnumbered with running heads.

`\appendix`

```
\appendix
```

Use `\appendix` to switch to the appendices. This changes `\section` to produce an appendix. Example:

```
\appendix
\chapter{Proof of Theorems}
```

2.4 Citations and Bibliography

The `jmlr` class automatically loads `natbib` and sets the bibliography style to `plainnat`. References should be stored in a `.bib` file.

`\bibliography`

```
\bibliography{<bib file>}
```

This displays the bibliography.

`\citep`

```
\citep[<pre note>][<post note>]{<label>}
```

Use `\citep` for a parenthetical citation.

`\citet`

```
\citet[<note>]{<label>}
```

Use `\citet` for a textual citation.

See the `natbib` documentation¹ for further details.

2.5 Figures and Tables

Floats, such as figures, tables and algorithms, are moving objects and are supposed to float to the nearest convenient location. Please don't force them to go in a particular place. In general it's best to use the `htbp` specifier and don't put the float in the middle of a paragraph (that is, make sure there's a paragraph break above and below the float). Floats are supposed to have a little extra space above and below them to make them stand out from the rest of the text. This extra space is put in automatically and shouldn't need modifying.

To ensure consistency, please *don't* try changing the format of the caption by doing something like:

```
\caption{\textit{A Sample Caption.}}
```

or

```
\caption{\em A Sample Caption.}
```

¹<http://ctan.org/pkg/natbib>

You can, of course, change the font for individual words or phrases. For example:

```
\caption{A Sample Caption With Some \emph{Emphasized Words}.}
```

The `jmlr` class provides the following command for displaying the contents of a figure or table:

`\floatconts`

```
\floatconts{<label>}{<caption command>}{<contents>}
```

This ensures that the caption is correctly positioned and that the contents are centered. For example:

```
\begin{table}[htbp]
\floatconts
  {tab:example}% label
  {\caption{An Example Table}}% caption command
  {%
    \begin{tabular}{ll}
      \bfseries Dataset & \bfseries Result\\
      Data1 & 0.123456
    \end{tabular}
  }
\end{table}
```

The `jmlr` class automatically loads `graphicx` which defines:

`\includegraphics`

```
\includegraphics[<options>]{<file name>}
```

where `<options>` is a comma-separated list of options.

For example, suppose you have an image called `mypic.png` in a subdirectory called `images`:

```
\begin{figure}[htbp]
\floatconts
  {fig:example}% label
  {\caption{An Example Figure}}% caption command
  {\includegraphics[width=0.5\textwidth]{images/mypic}}
\end{figure}
```

Note that you shouldn't specify the file extension when including the image. It's helpful if you can also provide a grayscale version of color images. This should be labeled as the color image but with `-gray` immediately before the extension. (The extension need not be the same as that of the color image.) For example, if you have an image called `mypic.pdf`, the grayscale can be called `mypic-gray.pdf`, `mypic-gray.png` or `mypic-gray.jpg`. See Section 2.11 for further details.

`\includeteximage`

```
\includeteximage[<options>]{<file name>}
```

If your image file is made up of \LaTeX code (e.g. `tikz` commands) the file can be included using `\includeteximage`. The optional argument is a key=value comma-separated list where the

keys are a subset of those provided by `\includegraphics`. The main keys are: `width`, `height`, `scale` and `angle`.

2.5.1 Sub-Figures and Sub-Tables

The `subfig` package causes a problem for `jmlrbook` so the `jmlr` class will give an error if it is used. Therefore the `jmlr` class provides its own commands for including sub-figures and sub-tables.

`\subfigure`

```
\subfigure[<title>] [<valign>]{<contents>}
```

This makes a sub-figure where `<contents>` denotes the contents of the sub-figure. This should also include the `\label`. The first optional argument `<title>` indicates a caption for the sub-figure. By default, the sub-figures are aligned at the base. This can be changed with the second optional argument `<valign>`, which may be one of: `t` (top), `c` (centred) or `b` (base).

For example, suppose there are two images files, `mypic1.png` and `mypic2.png`, in the sub-directory `images`. Then they can be included as sub-figures as follows:

```
\begin{figure}[htbp]
\floatconts
  {fig:example2}% label for whole figure
  {\caption{An Example Figure.}}% caption for whole figure
  {%
    \subfigure{%
      \label{fig:pic1}% label for this sub-figure
      \includegraphics{images/mypic1}
    }\quad % space out the images a bit
    \subfigure{%
      \label{fig:pic2}% label for this sub-figure
      \includegraphics{images/mypic2}
    }
  }
\end{figure}
```

`\subtable`

```
\subtable[<title>] [<valign>]{<contents>}
```

This is an analogous command for sub-tables. The default value for `<valign>` is `t`.

2.6 Algorithms

`algorithm`

```
\begin{algorithm}
<contents>
\end{algorithm}
```

Enumerated textual algorithms can be displayed using the algorithm environment. Within this environment, use `\caption` to set the caption (and `\label` to cross-reference it). Within the body of the environment you can use the `enumerate` environment.

enumerate*

```
\begin{enumerate*}
\item <text>
...
\end{enumerate*}
```

If you want to have nested `enumerate` environments but you want to keep the same numbering throughout the algorithm, you can use the `enumerate*` environment, provided by the `jmlr` class. For example:

```
\begin{enumerate*}
\item Set the label of vertex  $s$  to 0
\item Set  $i=0$ 
\begin{enumerate*}
\item \label{step:locate}Locate all unlabelled vertices
adjacent to a vertex labelled  $i$  and label them  $i+1$ 
\item If vertex  $t$  has been labelled,
\begin{enumerate*}
\item[] the shortest path can be found by backtracking, and
the length is given by the label of  $t$ .
\end{enumerate*}
otherwise
\begin{enumerate*}
\item[] increment  $i$  and return to step~\ref{step:locate}
\end{enumerate*}
\end{enumerate*}
\end{enumerate*}
\end{algorithm}
```

algorithm2e

```
\begin{algorithm2e}
<contents>
\end{algorithm2e}
```

Pseudo code can be displayed using the `algorithm2e` environment, provided by the `algorithm2e` package, which is automatically loaded. For example:

```
\begin{algorithm2e}
\caption{Computing Net Activation}
\label{alg:net}
\dontprintsemicolon
\linesnumbered
\KwIn{ $x_1, \dots, x_n, w_1, \dots, w_n$ }
\KwOut{ $y$ , the net activation}
 $y \leftarrow 0$ ;
```

```

\For{ $i \leftarrow 1$  \KwTo  $n$ }{
   $y \leftarrow y + w_i * x_i$ ;
}
\end{algorithm2e}

```

See the algorithm2e documentation² for more details.

2.7 Description Lists

altdescription

```

\begin{altdescription}{widest label}
\item[label] item text
\end{altdescription}

```

In addition to the standard description environment, the jmlr class also provides the altdescription environment. This has an argument that should be the widest label used in the list. For example:

```

\begin{altdescription}{differentiate}
\item[add] A method that adds two variables.
\item[differentiate] A method that differentiates a function.
\end{altdescription}

```

2.8 Theorems, Lemmas etc

The jmlr class provides the following theorem-like environments: theorem, example, lemma, proposition, remark, corollary, definition, conjecture and axiom. Within the body of those environments, you can use the proof environment to display the proof if need be. The theorem-like environments all take an optional argument, which gives the environment a title. For example:

```

\begin{theorem}[An Example Theorem]
\label{thm:example}
This is the theorem.
\begin{proof}
This is the proof.
\end{proof}
\end{theorem}

```

You can define your own numbered theorem-like environment using:

```

\newtheorem{name}[counter]{title}[outer counter]

```

or you can define an unnumbered theorem-like environment using:

```

\newtheorem*{name}{title}

```

²<http://ctan.org/pkg/algorithm2e>

where $\langle name \rangle$ is the name of the new environment and $\langle title \rangle$ is the title tag at the start of the environment. In the case of the numbered theorems, $\langle counter \rangle$ is a predefined counter to use with this theorem. If omitted, a new counter called $\langle name \rangle$ will be defined. The final optional argument $\langle outer counter \rangle$ is the name of a parent counter which, when incremented, should reset the theorem counter.

Both `\newtheorem` and `\newtheorem*` set the new theorem's style to the current defined style. The current style is set using the following commands:

`\theorembodyfont`

```
\theorembodyfont{\declarations}
```

This sets the font declarations used in the body of the theorem. This defaults to `\itshape`.

`\theoremheaderfont`

```
\theoremheaderfont{\declarations}
```

This sets the font declarations used for the theorem title. This defaults to `\bfseries`.

`\theorempostheader`

```
\theorempostheader{\text}
```

This indicates what should occur at the end of the title. This defaults to nothing.

`\theoremsep`

```
\theoremsep{\text}
```

This indicates what to put between the header and the body of the environment. This defaults to nothing.

For example, to define an unnumbered theorem-like environment called “note” with the title “Note” followed by a colon and a new line between the title and the body of the note environment:

```
\theorembodyfont{\upshape}
\theoremheaderfont{\scshape}
\theorempostheader{:}
\theoremsep{\newline}
\newtheorem*{note}{Note}
```

Now it can be used in the document environment:

```
\begin{note}
This is an unnumbered theorem-like environment.
\end{note}
```

2.9 Cross-Referencing

Always use `\label` when cross-referencing, rather than writing the number explicitly. The `jmlr` class provides some convenience commands to assist referencing. These commands, described below, can all take a comma-separated list of labels.

`\sectionref` `\sectionref{\langle label list \rangle}`

Used to refer to a section or sections. For example, if you defined a section as follows:

```
\chapter{Results}\label{sec:results}
```

you can refer to it as follows:

The results are detailed in `\sectionref{sec:results}`.

This command may also be used for sub-sections and sub-sub-sections.

`\appendixref` `\appendixref{\langle label list \rangle}`

Used to refer to an appendix or multiple appendices.

`\equationref` `\equationref{\langle label list \rangle}`

Used to refer to an equation or multiple equations.

`\tableref` `\tableref{\langle label list \rangle}`

Used to refer to a table or multiple tables. This can also be used for sub-tables where the main table number is also required.

`\subtabref` `\subtabref{\langle label list \rangle}`

Used to refer to sub-tables without the main table number, e.g. (a) or (b).

`\figurerref` `\figurerref{\langle label list \rangle}`

Used to refer to a figure or multiple figures. This can also be used for sub-figures where the main figure number is also required, e.g. 2(a) or 4(b).

`\subfigref` `\subfigref{\langle label list \rangle}`

Used to refer to sub-figures without the main figure number, e.g. (a) or (b).

`\algorithmref` `\algorithmref{\langle label list \rangle}`

Used to refer to an algorithm or multiple algorithms.

`\theoremref` `\theoremref{\langle label list \rangle}`

Used to refer to a theorem or multiple theorems.

`\lemmaref` `\lemmaref{\langle label list \rangle}`

Used to refer to a lemma or multiple lemmas.

`\remarkref` `\remarkref{\langle label list \rangle}`

Used to refer to a remark or multiple remarks.

`\corollaryref` `\corollaryref{\langle label list \rangle}`

Used to refer to a corollary or multiple corollaries.

`\definitionref` `\definitionref{\langle label list \rangle}`

Used to refer to a definition or multiple definitions.

`\conjectureref` `\conjectureref{\langle label list \rangle}`

Used to refer to a conjecture or multiple conjectures.

`\axiomref` `\axiomref{\langle label list \rangle}`

Used to refer to an axiom or multiple axioms.

`\exampleref` `\exampleref{\langle label list \rangle}`

Used to refer to an example or multiple examples.

2.10 Mathematics

The `jmlr` class loads the `amsmath` package so you can use any of the commands and environments defined in that package. A brief summary of some of the more common commands and environments is provided here. See the `amsmath` documentation³ for further details.

`\set` `\set{\langle text \rangle}`

In addition to the commands provided by `amsmath`, the `jmlr` class also provides the `\set` command which can be used to typeset a set. For example:

The universal set is denoted \set{U}

Unnumbered single-line equations should be displayed using `\[` and `\]`. For example:

$[E = m c^2]$

Numbered single-line equations should be displayed using the equation environment. For example:

³<http://ctan.org/pkg/amsmath>

```
\begin{equation}\label{eq:trigrule}
\cos^2\theta + \sin^2\theta \equiv 1
\end{equation}
```

Multi-lined numbered equations should be displayed using the align environment. For example:

```
\begin{align}
f(x) &= x^2 + x\label{eq:f}\\
f'(x) &= 2x + 1\label{eq:df}
\end{align}
```

Unnumbered multi-lined equations should be displayed using the align* environment. For example:

```
\begin{align*}
f(x) &= (x+1)(x-1)\\
&= x^2 - 1
\end{align*}
```

If you want to mix numbered with unnumbered lines use the align environment and suppress unwanted line numbers with \nonumber. For example:

```
\begin{align}
y &= x^2 + 3x - 2x + 1\nonumber\\
&= x^2 + x + 1\label{eq:y}
\end{align}
```

An equation that is too long to fit on a single line can be displayed using the split environment.

Text can be embedded in an equation using \text{\langle text \rangle} or you can use \intertext{\langle text \rangle} to interrupt a multi-line environment such as align.

Predefined operator names are listed in [table 2.1](#). For additional operators, either use

\operatorname

```
\operatorname{\langle name \rangle}
```

for example

```
If $X$ and $Y$ are independent,
$\operatorname{var}(X+Y) =
\operatorname{var}(X) + \operatorname{var}(Y)$
```

or declare it with

\DeclareMathOperator

```
\DeclareMathOperator{\command}{\langle name \rangle}
```

for example

```
\DeclareMathOperator{\var}{var}
```

and then use this new command:

```
If $X$ and $Y$ are independent,
$\var(X+Y) = \var(X)+\var(Y)$
```

If you want limits that go above and below the operator (like \sum) use the starred versions (\operatorname* or \DeclareMathOperator*).

Table 2.1: Predefined Operator Names (taken from amsmath documentation)

<code>\arccos</code>	<code>arccos</code>	<code>\deg</code>	<code>deg</code>	<code>\lg</code>	<code>lg</code>	<code>\projlim</code>	<code>projlim</code>
<code>\arcsin</code>	<code>arcsin</code>	<code>\det</code>	<code>det</code>	<code>\lim</code>	<code>lim</code>	<code>\sec</code>	<code>sec</code>
<code>\arctan</code>	<code>arctan</code>	<code>\dim</code>	<code>dim</code>	<code>\liminf</code>	<code>liminf</code>	<code>\sin</code>	<code>sin</code>
<code>\arg</code>	<code>arg</code>	<code>\exp</code>	<code>exp</code>	<code>\limsup</code>	<code>limsup</code>	<code>\sinh</code>	<code>sinh</code>
<code>\cos</code>	<code>cos</code>	<code>\gcd</code>	<code>gcd</code>	<code>\ln</code>	<code>ln</code>	<code>\sup</code>	<code>sup</code>
<code>\cosh</code>	<code>cosh</code>	<code>\hom</code>	<code>hom</code>	<code>\log</code>	<code>log</code>	<code>\tan</code>	<code>tan</code>
<code>\cot</code>	<code>cot</code>	<code>\inf</code>	<code>inf</code>	<code>\max</code>	<code>max</code>	<code>\tanh</code>	<code>tanh</code>
<code>\coth</code>	<code>coth</code>	<code>\injlim</code>	<code>injlim</code>	<code>\min</code>	<code>min</code>		
<code>\csc</code>	<code>csc</code>	<code>\ker</code>	<code>ker</code>	<code>\Pr</code>	<code>Pr</code>		
		<code>\varlimsup</code>	$\overline{\lim}$	<code>\varinjlim</code>	\varinjlim		
		<code>\varliminf</code>	$\underline{\lim}$	<code>\varprojlim</code>	\varprojlim		

2.11 Color vs Grayscale

It's helpful if authors supply grayscale versions of their articles in the event that the article is to be incorporated into a black and white printed book. With external PDF, PNG or JPG graphic files, you just need to supply a grayscale version of the file. For example, if the file is called `myimage.png`, then the gray version should be `myimage-gray.png` or `myimage-gray.pdf` or `myimage-gray.jpg`. You don't need to modify your code. The `jmlr` class checks for the existence of the grayscale version if it is print mode (provided you have used `\includegraphics` and haven't specified the file extension).

```
\ifprint \ifprint{\true part}{\false part}
```

You can use `\ifprint` to determine which mode you are in. For example:

```
in \figureref{fig:nodes}, the
\ifprint{dark gray}{purple}
ellipse represents an input and the
\ifprint{light gray}{yellow} ellipse
represents an output.
```

Another example:

```
{\ifprint{\bfseries}{\color{red}}important text!}
```

You can use the class option `gray` to see how the document will appear in gray scale mode.

The `xcolor` class is loaded with the `x11names` option, so you can use any of the `x11` predefined colors (listed in the `xcolor` documentation⁴).

⁴<http://ctan.org/pkg/xcolor>

2.12 Where To Go For Help

If you have a general \LaTeX query, the first place to go to is the UK TUG FAQ⁵.

If you are unfamiliar or just getting started with \LaTeX , there's a list of on-line introductions to \LaTeX at: <http://www.tex.ac.uk/cgi-bin/texfaq2html?label=man-latex>

There are also forums, mailing lists and newsgroups. For example, \TeX on StackExchange (<http://tex.stackexchange.com/>), the \LaTeX Community (<http://www.latex-community.org/>), the texhax mailing list (<http://tug.org/mailman/listinfo/texhax>) and `comp.text.tex` (archives available at <http://groups.google.com/group/comp.text.tex/>).

Documentation for packages or classes can be found using the `texdoc` application. For example:

```
texdoc natbib
```

Alternatively, you can go to <http://www.ctan.org/pkg/<name>> where *<name>* is the name of the package. For example: <http://www.ctan.org/pkg/natbib>

For a general guide to preparing papers (regardless of whether you are using \LaTeX or a word processor), see Kate L. Turabian, "A manual for writers of term papers, theses, and dissertations", The University of Chicago Press, 1996.

⁵<http://www.tex.ac.uk/faq>

3 Guidelines for Production Editors

The `jmlrbook` class can be used to combine articles that use the `jmlr` document class into a book. The following sample files are provided: `paper1/paper1.tex`, `paper2/paper2.tex`, `paper3/paper3.tex`, `jmlr-sample.tex`, `jmlrwcp-sample.tex`, `jmlrbook-sample.tex` and `proceedings-sample.tex`. All but the last two are articles using the `jmlr` class. The last two (`jmlrbook-sample.tex` and `proceedings-sample.tex`) uses the `jmlrbook` class file to combine the articles into a book. Note that no modifications are needed to the files using the `jmlr` class when they are imported into the book. They can either be compiled as stand-alone articles or with the entire book.

Before you compile the book, make sure that all the articles compile as stand-alone documents (and run BibTeX where necessary). You can use the `makejmlrbookgui` application to compile the book. See <http://www.dickimaw-books.com/apps/makejmlrbookgui/> for details.

3.1 `jmlrbook` Class Options

nowcp The imported pre-published articles were published in the Journal of Machine Learning Research (default).

pmlr The imported pre-published articles were published in the Proceedings of Machine Learning Research (PMLR).

wcp The imported pre-published articles were published in the JMLR Workshop and Conference Proceedings (JMLR W&CP).

If the book has a mixture of JMLR, JMLR W&CP or PMLR articles, you can switch between them using

`\jmlrnowcp`

`\jmlrnowcp`

(for JMLR) or

`\jmlrwcp`

`\jmlrwcp`

(for JMLR W&CP) or

`\jmlrpmlr`

`\jmlrpmlr`

(for PMLR). Alternatively, you can set the name of the journal or conference proceedings using:

`jmlrproceedings`

```
\jmlrproceedings{short title}{long title}
```

color Color version (see Section 2.11). Use this option for the on-line version with hyperlinks enabled (default).

gray Grayscale version (see Section 2.11). Use this option for the print version without hyperlinks.

tablecaption=top in a table environment, `\floatconts` puts the caption at the top.

tablecaption=bottom in a table environment, `\floatconts` puts the caption at the bottom.

letterpaper Set the paper size to letter (default).

7x10 Set the paper size to 7 × 10 inches.

10pt Use 10pt as the normal text size.

11pt Use 11pt as the normal text size (default).

12pt Use 12pt as the normal text size.

3.2 The Preamble

Any packages that the imported articles load (which aren't automatically loaded by `jmlr`) must be loaded in the book's preamble. For example, if one or more of the articles load the `siunitx` package, this package must be loaded in the book.

Commands that are defined in the imported articles will be local to that article unless they have been globally defined using `\gdef` or `\global`. Since most authors use `\newcommand` and `\newenvironment` (or `\renewcommand` and `\renewenvironment`) this shouldn't cause a conflict if more than one article has defined the same command or environment. For example, in the sample files supplied, both `paper1/paper1.tex` and `paper2/paper2.tex` have defined the command `\samplecommand` using `\newcommand`. As long as this command isn't also defined in the book, there won't be a conflict.

`\title`

```
\title[PDF title]{book title}
```

In the book preamble, `\title` sets the book title and the optional argument is used for the PDF title, which will be displayed when the reader views the PDF file's properties in their PDF viewer. (Note that in the imported articles, `\title` sets the article's title and the optional argument sets the short title for the page header and table of contents.)

`\author` `[\pdf author(s)]{\book author(s)}`

In the book preamble, `\author` sets the book's author (or editor) and the optional argument is used for the PDF author, which will be displayed when the reader views the PDF file's properties in their PDF viewer. (Note that in the imported articles, `\author` sets the article's author and the optional argument sets the short author list for the page header.)

`\volume` `\volume{<number>}`

This command sets the book's volume number. Omit if the book has no volume number.

`\subtitle` `\subtitle{<sub-title>}`

This command sets the book's subtitle. Omit if the book has no sub-title.

`\logo` `\logo[<url>]{<image command>}`

This sets the book's title image. Use `\includegraphics` and omit the file extension. If you provide a grayscale version as well as a color version, the grayscale version will be used for the print version of the book. (See Section 2.11 for further details.) The optional argument, if present, was formerly used by `makejmlrbookgui` to make the logo a link to `<url>` on the index HTML page. (The HTML pages are no longer generated by the application as PMLR now generate the HTML from the `.bib` file for the proceedings.)

`\team` `\team{<team title>}`

This can be used to set the name of the editorial team. This command may be omitted if not required.

`\productioneditor` `\productioneditor{<name>}`

This command may be used to name the production editor. The command may be omitted if not required.

`\jmlrlocation` `\jmlrlocation{<location>}`

This specifies the workshop location. By default this doesn't appear on the title page. See Section 3.4 for details on how to modify the layout of the title page.

3.3 Main Book Commands

All commands that are provided by the `jmlr` class are also available with the `jmlrbook` class, but some commands might behave differently depending on whether they are in the main part of the book or within the imported articles.

In the main part of the book you can use the following commands:

`\maketitle`

```
\maketitle
```

This displays the book's title page. Note that `\maketitle` has a different effect when used in imported articles.

`\frontmatter`

```
\frontmatter
```

Use this command at the start of the front matter (e.g. before the foreword or preface). This will make chapters unnumbered even if you use `\chapter` instead of `\chapter*`. It also sets the page style and sets the page numbering to lower case Roman numerals.

`authorsignoff`

```
\begin{authorsignoff}
<author list>
\end{authorsignoff}
```

This environment may be used by the author signing off at the end of a chapter such as the foreword. Within the environment use:

`\Author`

```
\Author{<details>}
```

for the author's details. More than one `\Author` should be used if there is more than one author. Example:

```
\begin{authorsignoff}
\Author{Nicola Talbot\
University of East Anglia}
\Author{Anne Author\
University of No Where}
\end{authorsignoff}
```

`preface`

```
\begin{preface}[<filename>]
```

This environment may be used to typeset the preface. This starts a new chapter using

```
\chapter{\prefacename}
```

`\prefacename`

where `\prefacename` defaults to "Preface". This environment should typically go in the front matter and is provided to allow `makejmlrbookgui` create a standalone document for the preface. The optional argument is the filename (without any extension or path) that will be used by `makejmlrbookgui`. This defaults to `preface` but, to conform with PMLR guidelines, should be changed to the surname of the first author (editor) followed by the final two digits of the year. See the PMLR website for further details of the guidelines.

`signoff`

```
\begin{signoff}[<team name>]{<date>}
<editor list>
\end{signoff}
```

This environment may be used by the editorial team when signing off a chapter such as the preface. If the optional argument is omitted, “The Editorial Team” is used. If you are using the preface environment described above, the signoff environment must go inside the preface environment.

Within the signoff environment use:

`\Editor` `\Editor{<details>}`

for each editor. Example:

```
\begin{signoff}{March 2010}
% First editor:
\Editor{Nicola Talbot\\
University of East Anglia\\
\mailto{N.Talbot@uea.ac.uk}}
% Second editor:
\Editor{Anne Editor\\
University of Nowhere\\
\mailto{ae@sample.com}}
\end{signoff}
```

`\tableofcontents` `\tableofcontents`

This command displays the book’s table of contents. Note that it has a different effect if used in an imported article.

`\mainmatter` `\mainmatter`

Use this command to switch to the book’s main matter. This will switch the chapter numbering back on, reset the page numbering to Arabic and set up the main page style.

`\part` `\part[<short title>]{<title>}`

If used in the main part of the book, this command will start a new part and issue a clear double page. Note that this command has a different effect if used in an imported article (or inside the `jmlrpapers` environment).

`\addtocpart` `\addtocpart{<title>}`

This adds *<title>* to the table of contents, issues a clear double page, but doesn’t display any text or affect the part numbering.

`\chapter` `\chapter[<short title>]{<title>}`

This command may be used in the main body of the book but will cause an error if used within an imported article (or inside the `jmlrpapers` environment).

`\section[<short title>]{<title>}`

`\subsection[<short title>]{<title>}`

`\subsubsection[<short title>]{<title>}`

`\paragraph[<short title>]{<title>}`

`\subparagraph[<short title>]{<title>}`

These commands may be used in the main body of the book or within imported articles. In the main body of the book (outside of the `jmlrpapers` environment) they need to be within a chapter and will be numbered according to the chapter.

`\appendix`

If used in the main body of the book (*outside* of the `jmlrpapers` environment) this will switch to the book appendices. Subsequent `\chapter` commands will produce the appendices. (Any imported articles in the appendix will be identified by `makejmlrbookgui` as supplemental material.) If used within an imported article (or within the `jmlrpapers` environment) `\appendix` will switch to the article appendices and won't affect the main part of the book.

`jmlrpapers`
`\begin{jmlrpapers}`
`<imported papers>`
`\end{jmlrpapers}`

This environment must be used when importing articles and may be used as often as required. Take care not to include book sectioning commands, such as `\chapter`, in this environment. Within the `jmlrpapers` environment, use the following commands to import articles:

`\importpubpaper[<label>]{<directory>}{<file>}{<pages>}`

This imports an article that has already been published elsewhere. The *<pages>* argument should be the page range from the *previously published* version of this article. This may not necessarily be the same as the page range of the article in the book. The directory the imported file is contained in is given by *<directory>*. If the file is in the same directory as the book, use a dot. The file name is given by *<file>*. The article is also given a label, specified by the optional argument. This is *<directory>/<file>* by default. The label is used as a prefix to labels in the imported articles which ensures that cross-references are unique. You can also

use this label to reference the article elsewhere in the book (see Section 3.3.2).

`\importpaper`

```
\importpaper [<label>]{<directory>}{<file>}
```

Imports an article that is being published in the book. The arguments are the same as above except that there is no page range (the page range is computed automatically).

`\importarticle`

```
\importarticle [<label>]{<directory>}{<file>}
```

This imports an article that hasn't been published elsewhere. There is no page range, but the other arguments are the same as those describe above for `\importpubpaper`.

Example: to import a previously published paper `paper1/paper1.tex` and an unpublished paper `paper2/paper2.tex`:

```
\begin{jmlrpapers}  
\importpubpaper{paper1}{paper1}{23--45}  
\importarticle{paper2}{paper2}  
\end{jmlrpapers}
```

3.3.1 Two Column Articles in a One Column Book

The `jmlrbook` class `column` style will override the `column` style of the imported articles. You can use the `twocolumn` class option to `jmlrbook`, but this will make the whole book with two columns. If you only want the imported articles to be in two columns, then put `\twocolumn` in the `jmlrpapers` environment to switch on two column formatting. The effect will be localised to the end of the environment.

3.3.2 Cross-Referencing

You can cross-reference other parts of the book using the standard `\label/\ref` mechanism, but if you want to reference something within an imported article, you must prefix the label with the label given when importing the article (that is, the optional argument to `\importpubpaper`, `\importpaper` or `\importarticle`). For example, if you want to reference a section labelled `sec:results` in the imported paper `paper1/paper1.tex`, you would need to do:

```
see Section~\ref{paper1/paper1sec:results}
```

or

```
see \sectionref{paper1/paper1sec:results}
```

In addition to the commands described in Section 2.9, the `jmlrbook` class also provides the following cross-referencing commands:

`\chapterref`

```
\chapterref{<label list>}
```

Reference a chapter or chapters. The argument is a comma-separated list of labels.

`\articlepageref`

```
\articlepageref{<label>}
```

This displays the starting page number of the article whose label is given by *<label>*. Note that this must be a single label, not a list. For example:

```
An interesting article starts on page~\articlepageref{paper1/paper1}
```

`\articlepagesref`

```
\articlepagesref{<label>}
```

This displays the page range of the article whose label is given by *<label>*. Again, this must be a single label, not a list. This page range is unrelated to the *<pages>* argument of `\importpubarticle`.

`\articletitleref`

```
\articletitleref{<label>}
```

This displays the short title for the article whose label is given by *<label>*. Again, this must be a single label, not a list.

`\articleauthorref`

```
\articleauthorref{<label>}
```

This displays the author list for the article whose label is given by *<label>*. Again, this must be a single label, not a list.

3.4 Altering the Layout of the Main Title Page

`\titlebody`

```
\titlebody
```

The main body of the book's title page is given by the command `\titlebody`. Within the definition of this command, you can use:

`\SetTitleElement`

```
\SetTitleElement{<element>}{<pre>}{<post>}
```

where *<element>* can be: title, volume, issue¹, subtitle, logo, team, author, date, productioneditor. The *<pre>* and *<post>* arguments specify what to do before and after the element. Note that `\SetTitleElement` does nothing if that element hasn't been set. For example, if `\volume` has been omitted or `\volume{}` is used, then

```
\SetTitleElement{volume}{\mainvolume font}{\postmainvolume}
```

will do nothing (so you don't end up with **Volume**!).

`\IfTitleElement`

```
\IfTitleElement{<element>}{<>true part>}{<>false part>}
```

¹The default title page layout doesn't use issue, but if required it can be set with `\issue{<number>}`

This does *<true part>* if *<element>* has been set otherwise it does *<>false part>*. For example, `\postmainvolume` is defined as:

```
\newcommand{\postmainvolume}{%
  \IfTitleElement{subtitle}{:}{\par\relax
}
```

This means that it will only print a colon after the volume number if the subtitle has been set. The default definition of `\titlebody` is:

```
\newcommand{\titlebody}{%
  \SetTitleElement{title}{\maintitlefont}{\postmaintitle}%
  \SetTitleElement{volume}{\mainvolumefont}{\postmainvolume}%
  \SetTitleElement{subtitle}{\mainsubtitlefont}{\postmainsubtitle}%
  \SetTitleElement{logo}{\mainlogoofont}{\postmainlogo}%
  \SetTitleElement{team}{\mainteamfont}{\postmainteam}%
  \SetTitleElement{author}{\mainauthorfont}{\postmainauthor}%
  \SetTitleElement{productioneditor}{\mainproductioneditorfont}{%
    {\postmainproductioneditor}%
  }
}
```

3.5 Potential Pitfalls

The `combine` class and `hyperref` package are individually both easily broken by packages that change certain internals and they don't ordinarily work together. The `jmlrbook` class applies patches to the internal referencing mechanism to make them work together, but it's a fairly fragile alliance. Some packages are known to break it, for example `subfig`, `pdfpages` and `geometry`. This is why the `jmlr` class checks for known problem packages and generates an error message to dissuade authors from using them. It's likely that there are other packages that may cause a problem and, as they are found, they will be added to the check list. Also, it's possible for an author to disable the package checking mechanism if they are determined to use a particular package.

In the event that an article has loaded a problem package, the editors will have to decide whether to ask the author to change the article so that it doesn't cause a problem or to make the changes themselves or to find a way of fudging things to get it to work. It depends on the level of \LaTeX expertise amongst the editors and the time available.

Another problem that can arise is when different articles use packages that conflict. For example, one article uses package `foo` and another uses package `bar`. Each article compiles okay as a stand-alone article, but when combined `foo` and `bar` conflict. Another problem may occur when articles load the same package but with conflicting package options. To reduce the chance of this occurring, the `jmlr` class loads some commonly used packages. For example, it loads the `algorithm2e` package with the `algo2e` and `ruled` options and provides the `algorithm` environment in addition to `algorithm2e`'s `algorithm2e` environment. Different versions of the same package can also be a problem. To help counteract the problem caused by different papers using different versions of the `algorithm2e` package, `jmlrbook` defines most of the old style commands if they don't exist.

Articles that use different input encodings can also cause a problem. For example, if one article uses `utf8` and another uses `latin1`. If the authors have directly entered a diacritic or ligature, such as `é` or `æ`, instead of using a \LaTeX command, such as `\'e` or `\ae`, then this will cause an error on compiling the book.² The choice then is to either change all non-keyboard characters with the appropriate \LaTeX commands or to use the `\inputencoding` command, supplied by the `inputenc` package, to switch the encoding at the start of each article. One thing to watch out for are bib files that contain a mixture of encodings caused by copying and pasting from different sources. Version 0.4.2b of `makejmlrbookgui` provides a function to search for characters outside the range `0x20` (space) and `0x7E` (tilde).

Authors who use `\nonumber` within an equation environment can mess up the hyperlinks. Remove `\nonumber` and change the equation environment to `\[... \]` (or just make it a numbered equation).

If the article changes the graphics path using `\graphicspath`, `jmlrbook` won't find the graphics if the imported articles aren't in the same directory as the book.

The `makejmlrbookgui` application provides some diagnostic tools, which can help detect some common problems. It's manual also has a [troubleshooting section](#).

²and may also cause a problem for the editor's text editor.

4 The Code

4.1 jmlr.cls Code

This class is based on the jmlr2e package but was modified to make sure it works with jmlr-book which uses both combine and hyperref.

Declare class and required TeX format:

```
1 \NeedsTeXFormat{LaTeX2e}
2 \ProvidesClass{jmlr}[2017/03/09 v1.23 (NLCT) Journal of Machine Learning Research]
```

Need xkeyval package to have key=value class options

```
3 \RequirePackage{xkeyval}
```

```
4 \RequirePackage{calc}
```

```
5 \RequirePackage{etoolbox}
```

Some packages need to be loaded before hyperref so provide a hook to do this:

jmlrprehyperref

```
6 \providecommand*\jmlrprehyperref{}
```

The following conditionals are provided to make this class play nicely with combine and aren't required for articles.

```
7 \newif\if@openright
```

```
8 \newif\if@mainmatter \@mainmattertrue
```

\ifgrayscale Determine whether to select grayscale alternatives

```
9 \@ifundefined{ifgrayscale}{
10 \newif\ifgrayscale
11 \grayscalefalse
12 }{}
13 \DeclareOptionX{color}{\grayscalefalse
14 \PassOptionsToPackage{color}{xcolor}}
15 \DeclareOptionX{gray}{\grayscaletrue
16 \PassOptionsToPackage{gray}{xcolor}}
```

draft

```
17 \DeclareOptionX{draft}{\setlength\overfullrule{5pt}}
```

final

```
18 \DeclareOptionX{final}{\setlength\overfullrule{0pt}}
```


tablecaptiontop Determine if the table captions should go at the top.

```

19 \newif\iftablecaptiontop
20 \tablecaptiontoptrue
21 \DeclareOptionX{tablecaptiontop}{\tablecaptiontoptrue}
22 \DeclareOptionX{tablecaptionbottom}{\tablecaptiontopfalse}
23
24 \define@choicekey{jmlr.cls}{tablecaption}[\val\nr]{top,bottom}{%
25   \ifcase\nr\relax
26     \tablecaptiontoptrue
27   \or
28     \tablecaptiontopfalse
29   \fi
30 }

```

\ifjmlrhtml Determine if we are using TeX4ht. (Deprecated.)

```

31 \newif\ifjmlrhtml
32 \jmlrhtmlfalse
33 \DeclareOptionX{html}{\jmlrhtmltrue}
34 \DeclareOptionX{nohtml}{\jmlrhtmlfalse}

```

Normal font size (default is 11pt).

```

35 \def\pt@size{11pt}
36 \DeclareOptionX{10pt}{\renewcommand{\pt@size}{10pt}}
37 \DeclareOptionX{11pt}{\renewcommand{\pt@size}{11pt}}
38 \DeclareOptionX{12pt}{\renewcommand{\pt@size}{12pt}}

```

jmlrproceedings The name of the proceedings.

```

39 \newcommand*{\@jmlrproceedings}{Journal of Machine Learning Research}

```

bbvrproceedings The abbreviated name of the proceedings.

```

40 \newcommand*{\@jmlrbbvrproceedings}{JMLR}

```

jmlrproceedings Sets the title and abbreviation of the proceedings

```

41 \newcommand*{\jmlrproceedings}[2]{%
42   \renewcommand*{\@jmlrbbvrproceedings}{#1}%
43   \renewcommand*{\@jmlrproceedings}{#2}%
44 }

```

\jmlrnowcp

```

45 \newcommand*{\jmlrnowcp}{%
46   \jmlrproceedings{JMLR}{Journal of Machine Learning Research}%
47 }

```

\jmlrwcpc

```

48 \newcommand*{\jmlrwcpc}{%
49   \jmlrproceedings{JMLR W\&CP}{JMLR: Workshop and Conference Proceedings}%
50 }

```

```

\jmlrpmlr The JMLR W&CP has been renamed PMLR, so provide code to switch to this instead,
51 \newcommand*{\jmlrpmlr}{%
52 \jmlrproceedings{PMLR}{Proceedings of Machine Learning Research}%
53 }

This isn't an article for a workshop:
54 \DeclareOptionX{nowcp}{\jmlrnowcp}
This is an article for JMLR W&CP
55 \DeclareOptionX{wcp}{\jmlrwcp}
This is an article for PMLR
56 \DeclareOptionX{pmlr}{\jmlrpmlr}

oneside
57 \DeclareOptionX{oneside}{\@twosidefalse \@mparswitchfalse}

twoside
58 \DeclareOptionX{twoside}{\@twosidetrue \@mparswitchtrue}

Set two-sided format
59 \@twosidetrue

The default paper size is letter, but provide 7 × 10in alternative:
60 \newif\ifviiXx
61 \viiXxfalse
62 \DeclareOptionX{7x10}{\viiXxtrue}
63 \DeclareOptionX{letterpaper}{\PassOptionsToPackage{letterpaper}{typearea}}

Pass all remaining options to article class:
64 \DeclareOptionX*{\PassOptionsToClass{\CurrentOption}{article}}

Execute required options:
65 \ExecuteOptions{letterpaper}

Process options:
66 \ProcessOptionsX

Load article class.
67 \LoadClass[\pt@size]{article}

Can't use geometry package because it doesn't play nicely with the combine class.
68 \ifviiXx
69 \setlength{\paperwidth}{7in}
70 \setlength{\paperheight}{10in}
71 \setlength{\textwidth}{5.25in}
72 \setlength{\textheight}{8.2in}
73 \setlength{\topmargin}{0.4in}
74 \setlength{\headheight}{0.2in}
75 \setlength{\headsep}{0.2in}
76 \setlength{\hoffset}{-1in}
77 \setlength{\voffset}{-1in}

```

```

78 \setlength{\evensidemargin}{0.75in}
79 \setlength{\oddsidemargin}{1.0in}
80 \else
81 \setlength{\oddsidemargin}{0.25in}
82 \setlength{\evensidemargin}{0.25in}
83 \setlength{\marginparwidth}{0.07 true in}
84 \setlength{\topmargin}{-0.5in}
85 \addtolength{\headsep}{0.25in}
86 \setlength{\textheight}{8.5 true in}
87 \setlength{\textwidth}{6.0 true in}
88 \fi

```

Need to add jmlr end document hook before natbib adds a `\clearpage` to it.

```
89 \AtEndDocument{\@jmlrenddoc}
```

Required packages:

```

90 \RequirePackage{amsmath}
91 \RequirePackage{amssymb}
92 \RequirePackage{natbib}
93 \RequirePackage{graphicx}
94 \RequirePackage{url}
95 \RequirePackage[x11names]{xcolor}

```

Allow old command names in the event that the proceedings contains a mixture of papers that use old and new versions. (This means that editors need to install the newer version.)

For some reason, loading `algorithm2e` causes the message

```
(\end occurred inside a group at level 1)
```

I don't know why, but it's outside the control of this class.

```
96 \RequirePackage[algo2e,ruled]{algorithm2e}
```

Do all the stuff that needs to be done before `hyperref` is loaded:

```
97 \jmlrprehyperref
```

Do stuff that has to come immediately before `hyperref` is loaded:

```
98 \@ifundefined{pre@hyperref}{}{\pre@hyperref}
```

Load `hyperref`:

```

99 \RequirePackage{hyperref}
100 \RequirePackage{nameref}

```

```
101 % Do stuff that has to come immediately after \sty{hyperref} and
```

```
102 % \sty{nameref} are loaded:
```

```
103 %\changes{1.16}{2012/05/15}{added \cs{@post@hyperref}}
```

```
104 \@ifundefined{post@hyperref}{}{\post@hyperref}
```

Set up `hyperref` options:

```

105 \hypersetup{colorlinks,
106             linkcolor=blue,
107             citecolor=blue,
108             urlcolor=magenta,
109             linktocpage,
110             plainpages=false}

```

```
111 \ifgrayscale
```

If this is the print version, need to disable the hyperlinks:

```
112 \hypersetup{draft}
```

```
113 \fi
```

Float parameters: the following settings were copied from jmlr2e.sty

```
114 \renewcommand{\topfraction}{0.95} % let figure take up nearly whole page
```

```
115 \renewcommand{\textfraction}{0.05} % let figure take up nearly whole page
```

widows/orphans

```
116 \widowpenalty=10000\relax
```

```
117 \clubpenalty=10000\relax
```

Put marginal notes on the outside of the page

```
118 \mparswitchtrue
```

Use the plainnat bibliography style and set up the required punctuation.

```
119 \bibliographystyle{plainnat}
```

```
120 \bibpunct{({})}{;}{a}{,}{,}
```

4.1.1 Sections

`\section`

```
121 \renewcommand{\section}{\@startsection{section}{1}{\z@}%
```

```
122   {-0.24in \@plus -1ex \@minus -.2ex}%
```

```
123   {0.10in \@plus .2ex}%
```

```
124   {\normalfont\rmfamily\bfseries\large\raggedright}%
```

```
125 }
```

`\subsection`

```
126 \renewcommand\subsection{\@startsection{subsection}{2}{\z@}%
```

```
127   {-0.20in \@plus -1ex \@minus -.2ex}%
```

```
128   {0.08in \@plus .2ex}%
```

```
129   {\normalfont\rmfamily\bfseries\normalsize\raggedright}%
```

```
130 }
```

`\subsubsection`

```
131 \renewcommand\subsubsection{\@startsection{subsubsection}{3}{\z@}%
```

```
132   {-0.18in \@plus -1ex \@minus -.2ex}%
```

```
133   {0.08in \@plus .2ex}%
```

```
134   {\normalfont\normalsize\rmfamily\mdseries\scshape\raggedright}%
```

```
135 }
```

`\paragraph`

```
136 \renewcommand\paragraph{\@startsection{paragraph}{4}{\z@}%
```

```
137   {1.5ex plus 0.5ex minus .2ex}%
```

```
138   {-1em}%
```

```
139   {\normalfont\normalsize\rmfamily\bfseries}%
```

```
140 }
```

`\subparagraph`

```
141 \renewcommand\subparagraph{\@startsection{subparagraph}{5}{\z@}%
142   {1.5ex plus 0.5ex minus .2ex}%
143   {-1em}%
144   {\normalfont\normalsize\rmfamily\bfseries\itshape}}
```

`\@secntformat` Redefine the way the section number appears in the section heading.

```
145 \renewcommand*\@secntformat[1]{%
146   \csname pre#1num\endcsname
147   \csname the#1\endcsname.\enskip
148 }
```

4.1.2 Footnotes

`\@makefntext` Redefine `\@makefntext` so that the text between the footnote symbol and the footnote text can be redefined. (It looks odd having a full stop after a symbol.)

```
149 \renewcommand*\@makefntext[1]{%
150   \@setpar
151   {%
152     \@@par
153     \@tempdima\hsize
154     \advance \@tempdima -15pt\relax
155     \parshape \@ne 15pt \@tempdima
156   }%
157   \par
158   \parindent 2em\noindent
159   \hbox to \z@ {\hss {\@thefnmark }\footnoteseptext\hfil }#1%
160 }
```

`footnoteseptext` The separation text between the footnote symbol and the footnote text.

```
161 \newcommand*\footnoteseptext{. }
```

`\thanks` Added optional argument to `\footnotetext` as per <http://tex.stackexchange.com/questions/229295>.

```
162 \renewcommand*\thanks[1]{%
163   \footnotemark
164   \protected@xdef\@thanks{\@thanks
165     \protect\footnotetext[\arabic{footnote}]{#1}}%
166 }
```

4.1.3 Article abstract

This code has been taken from `jmlr2e.sty` but with `\bf` updated to `\bfseries`

`abstract`

```
167 \ifjmlrhtml
168   \renewenvironment{abstract}{\HCode{<h3>}Abstract\HCode{</h3>}}{}%
169 \else
170   \renewenvironment{abstract}
```

```

171  {{\centering\large\bfseries Abstract\par}\vspace{0.7ex}%
172   \bgroup
173     \leftskip 20pt\rightskip 20pt\small\noindent\ignorespaces}%
174  {\par\egroup\vskip 0.25ex}
175 \fi

```

4.1.4 Keywords

This code has been taken from `jmlr2e.sty` but with `\bf` updated to `\bfseries`.

keywords

```

176 \newenvironment{keywords}
177 {\bgroup\leftskip 20pt\rightskip 20pt \small\noindent{\bfseries
178 Keywords:} \ignorespaces}%
179 {\par\egroup\vskip 0.25ex}

```

4.1.5 Title Page Information

This code has been taken from `jmlr2e.sty`.

Title stuff, borrowed in part from `aaai92.sty`

```

180 \newlength\aftertitskip \newlength\beforetitskip
181 \newlength\interauthorskip \newlength\aftermaketitskip

```

Changeable parameters.

```

182 \setlength\aftertitskip{0.1in plus 0.2in minus 0.2in}
183 \setlength\beforetitskip{0.05in plus 0.08in minus 0.08in}
184 \setlength\interauthorskip{0.08in plus 0.1in minus 0.1in}
185 \setlength\aftermaketitskip{0.3in plus 0.1in minus 0.1in}

```

`\titlebreak` Acts like new line in the paper title, but with `jmlrbook` acts like a space in the table of contents and bookmarks.

```

186 \newcommand*{\titlebreak}{\newline}

```

`\titletag`

```

187 \newcommand*{\titletag}[1]{

```

`\title` Override definition of `\title` to allow for an optional argument (short title)

```

188 \renewcommand*{\title}[2][\@title]{%
189 \def\@shorttitle{#1}%
190 \def\@title{#2}%
191 \protected@write\@auxout{}{\string\jmlr@title{#1}{#2}}%
192 \jmlrtitlehook
193 }

```

`\@shorttitle` The short title of the document is initialised to `\jobname` to ensure a basic document will compile even if no title is set.

```

194 \newcommand*{\@shorttitle}{\jobname}

```

```

\jmlrtitlehook
195 \newcommand*{\jmlrtitlehook}{}

\jmlr@title  AUX command provided for MakeJmlrBookGUI
196 \newcommand*{\jmlr@title}[2]{}

\author  Override definition of \author to allow for an optional argument (list of authors for page
heading)
197 \renewcommand*{\author}[2] [] {%
198   \def\@author{#2}%
199   \def\@sauthor{#1}%
200   \def\@jmlr@aux@author{#2}\@onelevel@sanitize\@jmlr@aux@author
201   \ifx\@sauthor\@empty
202     \let\@jmlr@aux@sauthor\@jmlr@aux@author
203   \else
204     \let\@shortauthor\@sauthor
205     \def\@jmlr@aux@sauthor{#1}\@onelevel@sanitize\@jmlr@aux@sauthor
206   \fi
207   \jmlrauthorhook
208   \protected@write\@auxout
209   {}{\string\jmlr@author{\@jmlr@aux@sauthor}{\@jmlr@aux@author}}%
210 }

\jmlrauthorhook
211 \newcommand*{\jmlrauthorhook}{}

\jmlr@author  AUX command provided for MakeJmlrBookGUI
212 \newcommand*{\jmlr@author}[2]{}

\@shortauthor
213 \newcommand*{\@shortauthor}{}

\@firstauthor
214 \newcommand*{\@firstauthor}{}

\@firstsurname
215 \newcommand*{\@firstsurname}{}

\jmlrlength
216 \newlength\jmlrlength

\jmlrmaketitle  Make the title
217 \def\jmlrmaketitle{%
218   \jmlrpremaketitlehook
219   \def\@jmlr@authors@sep{, }%
220   \par
221   \begingroup

```

```

222 \def\footnoteseptext{ }%
223 \def\thempfn{\textsuperscript{\thefootnote}}%
224 \def\thefootnote{\fnsymbol{footnote}}%

225 \if@twocolumn
226 \twocolumn[\@jmlrmaketitle]%
227 \else
228 \@jmlrmaketitle
229 \fi
230 \@thanks
231 \endgroup
232 \label{jmlrstart}%
233 \ifx\@sauthor\@empty
234 \settowidth{\jmlrlength}{\@evenhead}%
235 \ifdim\jmlrlength>\textwidth
236 \def\@shortauthor{\@firstsurname\space et al.}%
237 \fi
238 \fi
239 \settowidth{\jmlrlength}{\@titlefoot}%
240 \ifdim\jmlrlength>\textwidth
241 \def\@jmlrauthors{\@firstauthor\space \emph{et al}}%
242 \fi
243 \jmlrmaketitlehook
244 \thispagestyle{jmlrtps}%
245 \setcounter{footnote}{0}%
246 \let\maketitle\relax \let\@maketitle\relax
247 \gdef\@thanks{} \gdef\@author{} \let\thanks\@gobble
248 \def\@jmlr@authors@sep{ \& }%
249 }

```

lrmaketitlehook

```
250 \newcommand*{\jmlrmaketitlehook}{}
```

remaketitlehook

```
251 \newcommand*{\jmlrpremaketitlehook}{}
```

Provide a different title layout for HTML

lrhtmlmaketitle

```

252 \newcommand{\jmlrhtmlmaketitle}{%
253 \ifx\@jmlr@authors\@empty
254 \sbox\jmlrbox{\let\addr\relax\@author}%
255 \fi
256 \noindent\HCode{<h2>}\@title\HCode{</h2>}
257 \noindent\@jmlr@authors
258 }

```

\jmlrbox Define a save box

```
259 \newsavebox\jmlrbox
```



```

\maketitle If we're creating HTML, set \maketitle to \jmlrhtmlmaketitle, otherwise set it to \jmlrmaketitle
260 \ifjmlrhtml
261 \let\maketitle\jmlrhtmlmaketitle
262 \else
263 \let\maketitle\jmlrmaketitle
264 \fi

```

Author and editor information.

```

265 \def\@startauthor{\noindent \normalsize\bfseries}
266 \def\@endauthor{ }
267 \def\@starteditor{\noindent \small {\bfseries \@edname:~}}
268 \def\@endeditor{\normalsize}

```

Provide hooks to make it easier to adapted with combine class.

\jmlrprettitle

```

269 \def\jmlrprettitle{\vskip\beforetitskip\begin{center}\Large\bfseries}

```

\jmlrposttitle

```

270 \def\jmlrposttitle{\par\end{center}\vskip\aftertitskip}

```

\nametag

```

271 \newcommand*{\nametag}[1]{ }

```

\jmlrpreauthor

```

272 \def\jmlrpreauthor{%
273 \bgroup
274 \def\nametag##1{##1}%
275 \def\and{\unskip\enspace{\normalfont and}\enspace}%

276 \def\addr{\mdseries\small\itshape}%
277 \def\name{\ClassError{jmlr}{Use \string\Name{Author's Name} not \string\name}{}}%
278 \def\email{\ClassError{jmlr}{Use \string\Email{address} not \string\email}{}}%
279 \def\AND{\@endauthor\normalfont\hss \vskip \interauthorskip
280 \startauthor}%
281 \@startauthor
282 }

```

\addr Initialise to do nothing if used outside of \author

```

283 \newcommand{\addr}{ }

```

\@email

```

284 \def\@email{\hfill\small\mdseries\scshape}%

```

\@name

```

285 \def\@name{\normalsize\upshape\bfseries}%

```

`\@parsename` Parse a name. Appends forename to `\@forenames` and stores surname in `\@surname`.

```
286 \def\@parsename#1 #2\end@parsename{%
287   \def\@tmp{#2}%
288   \ifx\@tmp\@nnil
289     \def\@surname{#1}%
290     \let\@nextparsename\@parsenamenoop
291   \else
292     \@getinitial#1-\relax\relax\end@getinitial
293     \ifx\@forenames\@empty
294       \def\@forenames{#1}%
295       \protected@edef\@initials{\@initial}%
296     \else
297       \expandafter\toks@\expandafter{\@forenames}%
298       \edef\@forenames{\space\the\toks@}%
299       \expandafter\toks@\expandafter{\@initials}%
300       \protected@edef\@initials{\the\toks@\@initial}%
301     \fi
302     \let\@nextparsename\@parsename
303   \fi
304   \@nextparsename#2\end@parsename
305 }
306 \def\@parsenamenoop#1\end@parsename{}
```

`\@getinitial`

```
307 \def\@getinitial#1#2-#3#4\end@getinitial{%
308   \def\@jmlr@tmp{#3}%
309   \if\@jmlr@tmp\relax
310     \def\@initial{#1.}%
311   \else
312     \def\@initial{#1.-#3.}%
313   \fi
314 }
```

`\Name` Get the author's name and add surname to `\@shortauthors`. (Surnames with “von” parts or with spaces in should be enclosed in braces)

```
315 \newcommand*{\Name}[2][ ]{%
316   \def\@authorlist{#1}%
317   \def\@forenames{}%
318   \def\@surname{}%
319   \def\@nametag##1{%
320     \@parsename#2 \@nil\end@parsename
321   \ifx\@shortauthor\@empty
322     \ifx\@sauthor\@empty
323       \global\let\@shortauthor\@surname
324       \global\let\@firstsurname\@surname
325     \fi
326   \ifx\@authorlist\@empty
327     \protected@xdef\@jmlrauthors{\@initials\space\@surname}%
328   \else
```

```

329     \protected@xdef\@jmlrauthors{\@authorlist}%
330   \fi
331   \global\let\@firstauthor\@jmlrauthors
332 \else
333   \ifx\@sauthor\@empty
334     \expandafter\toks@\expandafter{\@shortauthor}%
335     \protected@xdef\@shortauthor{\the\toks@\space\@surname}%
336   \fi
337   \ifx\@authorlist\@empty
338     \ifx\@jmlrauthors\@empty
339       \protected@xdef\@jmlrauthors{\@initials\space\@surname}%
340     \else
341       \protected@xdef\@jmlrauthors{\@jmlrauthors
342         \noexpand\@jmlr@authors@sep
343         \@initials\space\@surname}%
344     \fi
345   \else
346     \ifx\@jmlrauthors\@empty
347       \protected@xdef\@jmlrauthors{\@authorlist}%
348     \else
349       \protected@xdef\@jmlrauthors{\@jmlrauthors
350         \noexpand\@jmlr@authors@sep
351         \@authorlist
352       }%
353     \fi
354   \fi
355 \fi
356 \def\nametag##1{##1}%
357 \@name #2%
358 }

```

`jmlrabbrnamelist` Display list of names in abbreviated form. (Mainly designed for use with `makejmlrbook` for the preface authors.) The author should be grouped if the name contains a comma.

```

359 \newcommand*\jmlrabbrnamelist}[1]{%
360   \def\nametag##1{##1}%
361   \def\@jmlr@authors@sep{, }%
362   \def\@jmlr@namelist{}%
363   \@for\@thisname:=#1\do{%
364     \expandafter\@jmlrabbrname\expandafter{\@thisname}%
365     \ifx\@jmlr@namelist\@empty
366       \protected@edef\@jmlr@namelist{%
367         \@initials\space\@surname
368       }%
369     \else
370       \protected@edef\@jmlr@namelist{%
371         \@jmlr@namelist
372         \noexpand\@jmlr@authors@sep
373         \@initials\space\@surname
374       }%

```

```

375     \fi
376 }%
377 \def\@jmlr@authors@sep{ \& }%
378 \@jmlr@namelist
379 }

```

\@jmlrabbrname

```

380 \newcommand*\@jmlrabbrname}[1]{%
381   \def\@initials{}%
382   \def\@surname{}%
383   \def\@forenames{}%
384   \@parsename#1 \@nil\end@parsename
385 }

```

\Email

```

386 \newcommand*\Email}[1]{\@email #1}

```

\jmlrpostauthor

```

387 \def\jmlrpostauthor{\@endauthor\egroup
388   \par
389   \vskip \aftermaketitskip
390   \noindent
391   \ifx\@editor\@empty
392   \else
393     \@starteditor \@editor \@endeditor
394   \fi
395   \vskip \aftermaketitskip
396 }

```

\@jmlrmaketitle

```

397 \def\@jmlrmaketitle{\vbox{\hsize\textwidth
398   \linewidth\hsize
399   \jmlrprettitle
400   {%
401     \def\titletag##1{##1}%
402     \@title
403   }%
404   \jmlrposttitle
405   \jmlrpreauthor \@author \jmlrpostauthor
406 }}

```

\kernelmachines Convenience command

```

407 \newcommand*\kernelmachines{(for
408   {\textsc{http://www.kernel-machines.org}})}

```

\editorname Label for the editor

```

409 \newcommand*\editorname{Editor}

```

`\editorsname` Label for the editor
410 `\newcommand*{\editorsname}{Editors}`

`\@edname` This will either be Editor or Editors depending on whether `\editor` or `\editors` is used.
Defaults to `\editorname`
411 `\let\@edname\editorname`

`\@editor` The editor or editors are stored in `\@editor`
412 `\def\@editor{}`

`\editor` A single editor
413 `\def\editor#1{%`
414 `\global\let\@edname\editorname`
415 `\gdef\@editor{#1}%`
416 `}`

`\editors` Multiple editors
417 `\def\editors#1{%`
418 `\global\let\@edname\editorsname`
419 `\gdef\@editor{#1}%`
420 `}`

4.1.6 Pagestyles

This is taken from `jmlr2e.sty`

`\firstpageno` Set the page counter.
421 `\def\firstpageno#1{\setcounter{page}{#1}}`

`\startpage` If `\startpage` has been defined, use its value for the first page.
422 `\@ifundefined{startpage}{\firstpageno{\startpage}}`

Label end page.

`\@jmlrenddoc` Label end page
423 `\newcommand*{\@jmlrenddoc}{%`
424 `\phantomsection`
425 `\protected@edef\@currentlabelname{end of \@shorttitle}%`
426 `\label{jmlrend}\null`
427 `\global\let\@reprint\@empty`
428 `}`

`\@titlefoot`
429 `\newcommand*{\@titlefoot}{\scriptsize\copyright\space\@jmlryear`
430 `\space\@jmlr@authors.\hfill`
431 `\@reprint`
432 `}`

\reprint

```
433 \let\@reprint\@empty
434 \newcommand{\reprint}[1]{%
435   \gdef\@reprint{Reprinted with permission for JMLR#1}}
```

\ps@jmlrtps Title page style

```
436 \newcommand\ps@jmlrtps{%
437   \let\@mkboth\@gobbletwo
438   \def\@oddhead{\scriptsize \@jmlrproceedings
439     \ifx\@jmlrvolume\@empty
440       \else
441         \space\@jmlrvolume
442         \ifx\@jmlrissue\@empty\else(\@jmlrissue)\fi
443         \ifx\@jmlrpages\@empty
444           \ifx\@jmlryear\@empty
445             \else
446               \if\@jmlrissue\@empty,\fi
447             \fi
448           \else
449             :%
450           \fi
451         \fi
452         \ifx\@jmlrpages\@empty
453         \else
454           \ifx\@jmlrvolume\@empty\space\fi
455           \@jmlrpages
456           \ifx\@jmlryear\@empty\else,\fi
457         \fi
458         \ifx\@jmlryear\@empty\else\space\@jmlryear\fi
459       \hfill
460       \ifx\@jmlrworkshop\@empty
461         \ifx\@jmlrsubmitted\@empty
462         \else
463           Submitted \@jmlrsubmitted
464           \ifx\@jmlrpublished\@empty\else;\fi
465         \fi
466         \ifx\@jmlrpublished\@empty
467         \else
468           \space Published \@jmlrpublished
469         \fi
470       \else
471         \space\@jmlrworkshop
472       \fi
473   }%
474   \let\@evenhead\@oddhead
475   \def\@oddfoot{\@titlefoot}%
476   \let\@evenfoot\@oddfoot
477 }
```

```

\ps@jmlrps Page style for subsequent pages
478 \def\ps@jmlrps{%
479 \let\mkboth@gobbletwo
480 \def\@oddhead{\hfill {\small\scshape \@shorttitle} \hfill}%
481 \def\@oddfoot{\hfill \small\rmfamily \thepage \hfill}%
482 \def\@evenhead{\hfill {\small\scshape \@shortauthor} \hfill}%
483 \def\@evenfoot{\hfill \small\rmfamily \thepage \hfill}%
484 }%

Set the page style:
485 \pagestyle{jmlrps}

Set the heading information:

\@jmlrvolume The volume number:
486 \providecommand*\@jmlrvolume{ }

\jmlrvolume
487 \newcommand*\@jmlrvolume[1]{\renewcommand*\@jmlrvolume{#1}}

\@jmlrissue The issue number:
488 \providecommand*\@jmlrissue{ }

\jmlrissue
489 \newcommand*\@jmlrissue[1]{\renewcommand*\@jmlrissue{#1}}

\@jmlryear The year of publication:
490 \providecommand*\@jmlryear{ }

\jmlryear
491 \newcommand*\@jmlryear[1]{\renewcommand*\@jmlryear{#1}}

\@jmlrpages The page range:
492 \providecommand*\@jmlrpages{\pageref{jmlrstart}--\pageref{jmlrend}}

\jmlrpages
493 \newcommand*\@jmlrpages[1]{\renewcommand*\@jmlrpages{#1}}

\@jmlrsubmitted The date the article was submitted:
494 \providecommand*\@jmlrsubmitted{ }

\jmlrsubmitted
495 \newcommand*\@jmlrsubmitted[1]{\renewcommand*\@jmlrsubmitted{#1}}

\@jmlrpublished The date the article was published:
496 \providecommand*\@jmlrpublished{ }

```

```

\jmlrpublished
497 \newcommand*\jmlrpublished[1]{\renewcommand*\@jmlrpublished{#1}}

\@jmlrworkshop The name of the workshop:
498 \providecommand*\@jmlrworkshop{}

\jmlrworkshop
499 \newcommand*\jmlrworkshop[1]{%
500 \renewcommand*\@jmlrworkshop{#1}%
501 \protected@write\@auxout{}\string\jmlr@workshop{#1}}%
502 }

\jmlr@workshop
503 \newcommand*\jmlr@workshop[1]{}

\date
504 \renewcommand*\date[1]{%
505 \renewcommand*\@date{#1}%
506 \protected@write\@auxout{}\string\jmlr@date{#1}}%
507 }

\jmlr@date
508 \newcommand*\jmlr@date[1]{}

\@jmlrauthors
509 \newcommand*\@jmlrauthors{}

\@jmlr@authors
510 \newcommand*\@jmlr@authors{\@jmlrauthors}

\jmlrauthors This is provided in case \Name doesn't set \@jmlrauthors correctly.
511 \newcommand*\jmlrauthors[1]{\global\def\@jmlr@authors{#1}}

```

4.1.7 Miscellany

This code was taken from jmlr2e.sty.

Define macros for figure captions and table titles

```

512 \def\figurecaption#1#2{\noindent\hangindent 40pt
513 \hbox to 36pt {\small\slshape #1 \hfil}
514 \ignorespaces {\small #2}}

```

Figurecenter prints the caption title centered.

```

515 \def\figurecenter#1#2{\centerline{{\slshape #1} #2}}
516 \def\figurecenter#1#2{\centerline{{\small\slshape #1} {\small #2}}}

```

Allow “hanging indents” in long captions

`\@makecaption`

```
517 \long\def\@makecaption#1#2{%
518   \vskip 10pt
519   \setbox\@tempboxa\hbox{#1: #2}%
520   \ifdim \wd\@tempboxa >\hsize           % IF longer than one line:
521     \begin{list}{#1:}{%
522       \settowidth{\labelwidth}{#1:}
523       \setlength{\leftmargin}{\labelwidth}
524       \addtolength{\leftmargin}{\labelsep}
525       }\item #2 \end{list}\par % Output in quote mode
526   \else                                     % ELSE center.
527     \hbox to\hsize{\hfil\box\@tempboxa\hfil}
528   \fi}
```

Define strut macros for skipping spaces above and below text in a tabular environment.

```
529 \def\abovestrut#1{\rule[0in]{0in}{#1}\ignorespaces}
530 \def\belowstrut#1{\rule[-#1]{0in}{#1}\ignorespaces}
```

`\acks` Acknowledgments

```
531 \long\def\acks#1{\section*{Acknowledgments}#1}
```

Research Note

`\researchnote`

```
532 \long\def\researchnote#1{\noindent {\LARGE\itshape Research Note} #1}
```

`\set`

```
533 \newcommand*{\set}[1]{\ensuremath{\mathcal{#1}}}
```

Convenient macros for cross-referencing.

```
534 \newcommand*{\@jmlr@reflistsep}{, }
535 \newcommand*{\@jmlr@reflistlastsep}{ and }
536 \newcommand*{\sectionrefname}{Section}
537 \newcommand*{\sectionsrefname}{Sections}
538 \newcommand*{\equationrefname}{Equation}
539 \newcommand*{\equationsrefname}{Equations}
540 \newcommand*{\tablerefname}{Table}
541 \newcommand*{\tablesrefname}{Tables}
542 \newcommand*{\figurerefname}{Figure}
543 \newcommand*{\figuresrefname}{Figures}
544 \newcommand*{\algorithmrefname}{Algorithm}
545 \newcommand*{\algorithmsrefname}{Algorithms}
546 \newcommand*{\theoremrefname}{Theorem}
547 \newcommand*{\theoremsrefname}{Theorems}
548 \newcommand*{\lemmarefname}{Lemma}
549 \newcommand*{\lemmasrefname}{Lemmas}
550 \newcommand*{\remarkrefname}{Remark}
551 \newcommand*{\remarksrefname}{Remarks}
552 \newcommand*{\corollaryrefname}{Corollary}
```

```

553 \newcommand*{\corollarysrefname}{Corollaries}
554 \newcommand*{\definitionrefname}{Definition}
555 \newcommand*{\definitionsrefname}{Definitions}
556 \newcommand*{\conjecturerefname}{Conjecture}
557 \newcommand*{\conjecturesrefname}{Conjectures}
558 \newcommand*{\axiomrefname}{Axiom}
559 \newcommand*{\axiomsrefname}{Axioms}
560 \newcommand*{\examplerefname}{Example}
561 \newcommand*{\examplesrefname}{Examples}
562 \newcommand*{\appendixrefname}{Appendix}
563 \newcommand*{\appendixsrefname}{Appendices}
564 \newcommand*{\partrefname}{Part}
565 \newcommand*{\partsrefname}{Parts}

```

`\objectref` Cross-reference a particular structural element. The first argument is the list of labels, the second argument is a control sequence containing the singular tag, the third argument a control sequence containing the plural tag, the fourth argument is text to go before the reference number, e.g. an opening bracket, and the fifth argument is text to go after the reference number, e.g. a closing bracket.

```

566 \DeclareRobustCommand*{\objectref}[5]{%
567   \let\@objectname\@empty
568   \def\@objectref{}%
569   \let\@prevsep\@empty
570   \@for\@thislabel:=#1\do{%
571     \toks@{\@prevsep}%
572     \protected@edef\@objectref{\@objectref\the\toks@
573       #4\ref{\@thislabel}#5}%
574     \ifx\@objectname\@empty
575       \let\@objectname#2% singular tag
576     \else
577       \let\@objectname#3% plural tag
578       \let\@prevsep\@jmlr@reflistsep
579     \fi
580   }%
581   \ifx\@objectname#3% plural tag
582     \let\@prevsep\@jmlr@reflistlastsep
583   \fi
584   \@objectname~\@objectref
585 }

```

`\sectionref`

```

586 \newcommand*{\sectionref}[1]{%
587   \objectref{#1}{\sectionrefname}{\sectionsrefname}{\{}}

```

`\equationref`

```

588 \newcommand*{\equationref}[1]{%
589   \objectref{#1}{\equationrefname}{\equationsrefname}{()}

```

`\tableref`

```
590 \newcommand*{\tableref}[1]{%  
591 \objectref{#1}{\tablerefname}{\tablesrefname}{}}}
```

`\figureref`

```
592 \newcommand*{\figureref}[1]{%  
593 \objectref{#1}{\figurerefname}{\figuresrefname}{}}}
```

`\algorithmref`

```
594 \newcommand*{\algorithmref}[1]{%  
595 \objectref{#1}{\algorithmrefname}{\algorithmsrefname}{}}}
```

`\theoremref`

```
596 \newcommand*{\theoremref}[1]{%  
597 \objectref{#1}{\theoremrefname}{\theoremsrefname}{}}}
```

`\lemmaref`

```
598 \newcommand*{\lemmaref}[1]{%  
599 \objectref{#1}{\lemmarefname}{\lemmasrefname}{}}}
```

`\remarkref`

```
600 \newcommand*{\remarkref}[1]{%  
601 \objectref{#1}{\remarkrefname}{\remarksrefname}{}}}
```

`\corollaryref`

```
602 \newcommand*{\corollaryref}[1]{%  
603 \objectref{#1}{\corollaryrefname}{\corollarysrefname}{}}}
```

`\definitionref`

```
604 \newcommand*{\definitionref}[1]{%  
605 \objectref{#1}{\definitionrefname}{\definitionsrefname}{}}}
```

`\conjectureref`

```
606 \newcommand*{\conjectureref}[1]{%  
607 \objectref{#1}{\conjecturerefname}{\conjecturesrefname}{}}}
```

`\axiomref`

```
608 \newcommand*{\axiomref}[1]{%  
609 \objectref{#1}{\axiomrefname}{\axiomsrefname}{}}}
```

`\exampleref`

```
610 \newcommand*{\exampleref}[1]{%  
611 \objectref{#1}{\examplerefname}{\examplesrefname}{}}}
```

`\appendixref`

```
612 \newcommand*{\appendixref}[1]{%  
613 \objectref{#1}{\appendixrefname}{\appendixsrefname}{}}}
```

`\partref`

```
614 \newcommand*{\partref}[1]{%
615   \objectref{#1}{\partrefname}{\partsrefname}{}}}
```

`\floatconts` The first argument is the label, the second argument contains the caption (using `\caption`) and the third argument is the contents of the float

```
616 \newcommand{\floatconts}[3]{%
617   \@ifundefined{\@capytype conts}{\tableconts{#1}{#2}{#3}}%
618   {\csname\@capytype conts\endcsname{#1}{#2}{#3}}%
619 }
```

`\tableconts`

```
620 \newcommand{\tableconts}[3]{%
621   \iftablecaptiontop
622     #2\label{#1}\vskip\baselineskip
623     {\centering #3\par}%
624   \else
625     {\centering #3\par}%
626     \vskip\baselineskip
627     #2\label{#1}%
628   \fi
629 }
```

`\figureconts`

```
630 \newcommand{\figureconts}[3]{%
631   {\centering #3\par}%
632   \vskip\baselineskip
633   #2\label{#1}%
634 }
```

`\algocfconts`

```
635 \newcommand{\algocfconts}[3]{%
636   \@algocf@pre@ruled
637   #2\label{#1}\kern2pt\hrule height.8pt depth0pt\kern2pt%
638   #3\@algocf@pre@ruled
639 }
```

`\includeteximage` Provide a command like `\includegraphics` that includes a file containing \LaTeX picture code (e.g. `pgf`).

```
640 \newcommand*{\includeteximage}[2] [] {%
641   \def\Gin@req@sizes{%
642     \Gin@req@height\Gin@nat@height
643     \Gin@req@width\Gin@nat@width}%
644   \begingroup
645     \@tempwafalse
646     \let\input@path\Gin@input@path
647     \toks@{\InputIfFileExists{#2}{}\@warning{File ‘#1’ not found}}%
648     \setkeys{Gin}{#1}%
```

```

649 \Gin@esetsize
650 \the\toks@
651 \endgroup
652 }

```

`\ifprint` Provide command to check if this is the printed greyscale version or the online colour version.

```
653 \providecommand{\ifprint}[2]{\ifgrayscale#1\else#2\fi}
```

Modify `\includegraphics` so that it can pick up the greyscale version of images if this is the print version.

```

654 \ifjmlrhtml
655 \else
656 \let\@org@Gininclude@graphics\Gininclude@graphics
657 \def\Gininclude@graphics#1{%
658 \begingroup
659 \let\input@path\Gininput@path
660 \ifprint{\filename@parse{#1-gray}}{\filename@parse{#1}}%
661 \ifx\filename@ext\relax
662 \@for\Gin@temp:=\Gin@extensions\do{%
663 \ifx\Gin@ext\relax
664 \Gin@getbase\Gin@temp
665 \fi}%
666 \else
667 \ifprint{\filename@parse{#1}}{%
668 \Gin@getbase{\Gin@sepdefault\filename@ext}%
669 \ifx\Gin@ext\relax
670 \@warning{File ‘#1’ not found}%
671 \def\Gin@base{\filename@area\filename@base}%
672 \edef\Gin@ext{\Gin@sepdefault\filename@ext}%
673 \fi
674 \fi
675 \ifx\Gin@ext\relax
676 \ifprint{\@org@Gininclude@graphics{#1}}%
677 {%
678 \@latex@error{File ‘#1’ not found}%
679 {I could not locate the file with any of these extensions:^^J%
680 \Gin@extensions^^J\@ehc}%
681 }%
682 \else
683 \@ifundefined{Gin@rule@\Gin@ext}%
684 {\ifx\Gin@rule@*\@undefined
685 \@latex@error{Unknown graphics extension: \Gin@ext}\@ehc
686 \else
687 \expandafter\Gin@setfile\Gin@rule@*{\Gin@base\Gin@ext}%
688 \fi}%
689 {\expandafter\expandafter\expandafter\Gin@setfile
690 \csname Gin@rule@\Gin@ext\endcsname{\Gin@base\Gin@ext}}%
691 \fi
692 \endgroup}

```

693 \fi

The algorithm environment should float like a figure or table. It should use the same counter as the algorithm2e environment.

```
694 \newenvironment{algorithm}[1][htbp]%
695 {%
696   \begin{algotcf}[#1]%
697   \renewcommand\@makecaption[2]{%
698     \hskip\AlCapHSkip
699     \parbox[t]{\hsize}{\algotcf@captiontext{##1}{##2}}%
700   }%
701 }%
702 {%
703   \end{algotcf}%
704 }
```

Set the algorithm margin to zero.

```
705 \setlength\algotmargin{0pt}
```

`\artappendix` Switch to appendices in an article

```
706 \newcommand{\artappendix}{\par
707   \setcounter{section}{0}
708   \setcounter{subsection}{0}
709   \def\thesection{\Alph{section}}
710   \def\theHsection{\theHchapter.\Alph{section}}
711   \def\presectionnum{Appendix~}%
712 }
```

The default assumes a stand-alone article.

`\appendix`

```
713 \let\appendix\artappendix
```

`\booklinebreak` Provided for book production editors to fine tune the book line breaking. Does nothing in the standalone article.

```
714 \newcommand{\booklinebreak}[1][[]]{}
```

4.1.8 Proofs and Theorems

This code is taken from `jmlr2e.sty`

`\BlackBox` End of proof marker

```
715 \newcommand{\BlackBox}{\rule{1.5ex}{1.5ex}}
```

`\jmlrQED`

```
716 \newcommand*{\jmlrQED}{\hfill\BlackBox\[\[2mm]}
```

proof Proof environment

```
717 \newenvironment{proof}%  
718 {%  
719 \par\noindent{\bfseries\upshape Proof\ }%  
720 }%  
721 {\jmlrQED}
```

Since theorem, ntheorem and amsthm all cause problems with this class, provide a simple alternative.

`\theorembodyfont` `\theorembodyfont{}`

```
722 \newcommand*{\theorembodyfont}[1]{%  
723 \renewcommand*{\@theorembodyfont}{#1}%  
724 }  
725 \newcommand*{\@theorembodyfont}{\normalfont\itshape}%
```

`theoremheaderfont` `\theoremheaderfont{}`

```
726 \newcommand*{\theoremheaderfont}[1]{%  
727 \renewcommand*{\@theoremheaderfont}{#1}%  
728 }  
729 \newcommand*{\@theoremheaderfont}{\normalfont\bfseries }%
```

`\theoremsep` `\theoremsep{<separation code>}`

```
730 \newcommand*{\theoremsep}[1]{%  
731 \renewcommand*{\@theoremsep}{#1}%  
732 }  
733 \newcommand*{\@theoremsep}{}%
```

`theorempostheader` `\theorempostheader{<text>}`

```
734 \newcommand*{\theorempostheader}[1]{%  
735 \renewcommand*{\@theorempostheader}{#1}%  
736 }  
737 \newcommand*{\@theorempostheader}{}%
```

`\newtheorem`

```
738 \let\jmlr@org@newtheorem\newtheorem  
739 \renewcommand*{\newtheorem}{\@ifstar\jmlr@snewtheorem\jmlr@newtheorem}
```

Define starred version:

```
\newtheorem*{<env-name>}{<title tag>}
```

```
740 \newcommand*{\jmlr@snewtheorem}[2]{%
741   \cslet{jmlr@thm@#1@body@font}{\@theorembodyfont}%
742   \cslet{jmlr@thm@#1@header@font}{\@theoremheaderfont}%
743   \cslet{jmlr@thm@#1@sep}{\@theoremsep}%
744   \cslet{jmlr@thm@#1@postheader}{\@theorempostheader}%
745   \newenvironment{#1}%
746   {%
747     \trivlist
748     \item
749     [%
750       \hskip\labelsep{\csuse{jmlr@thm@#1@header@font}#2}%
751       \csuse{jmlr@thm@#1@postheader}%
752     ]%
753   ]%
754   \mbox{}{\csuse{jmlr@thm@#1@sep}%
755   \csuse{jmlr@thm@#1@body@font}%
756   }%
757   {%
758     \endtrivlist
759   }%
760 }
```

Unstarred version needs adjusting to take the style into account:

\@othm

```
761 \newcommand{\jmlr@newtheorem}[1]{%
762   \cslet{jmlr@thm@#1@body@font}{\@theorembodyfont}%
763   \cslet{jmlr@thm@#1@header@font}{\@theoremheaderfont}%
764   \cslet{jmlr@thm@#1@sep}{\@theoremsep}%
765   \cslet{jmlr@thm@#1@postheader}{\@theorempostheader}%
766   \jmlr@org@newtheorem{#1}%
767 }
```

\@xthm

```
768 \renewcommand*{\@xthm}[2]{%
769   \def\@jmlr@currentthm{#1}%
770   \@begintheorem{#2}{\csname the#1\endcsname}%
771   \ignorespaces
772 }
```

\@ythm

```
773 \def\@ythm#1#2[#3]{%
774   \def\@jmlr@currentthm{#1}%
775   \@opargbegintheorem{#2}{\csname the#1\endcsname}{#3}%
776   \ignorespaces
777 }
```


\@begintheorem

```
778 \renewcommand*{\@begintheorem}[2]{%
779   \ifdef{\@jmlr@currentthm}%
780   {%
781     \letcs{\jmlr@this@theoremheader}{\jmlr@thm@\@jmlr@currentthm @header@font}%
782     \letcs{\jmlr@this@theorembody}{\jmlr@thm@\@jmlr@currentthm @body@font}%
783     \letcs{\jmlr@this@theoremsep}{\jmlr@thm@\@jmlr@currentthm @sep}%
784     \letcs{\jmlr@this@theoremseparator}{\jmlr@thm@\@jmlr@currentthm @postheader}%
785     {\jmlr@thm@\@jmlr@currentthm @postheader}%
786   }%
787   {%
788     \let\jmlr@this@theorembody\@theorembodyfont
789     \let\jmlr@this@theoremheader\@theoremheaderfont
790     \let\jmlr@this@theoremsep\@theoremsep
791     \let\jmlr@this@theoremseparator\@theoremseparator
792   }%
793   \trivlist
794     \item
795       [%
796         \hskip\labelsep{\jmlr@this@theoremheader #1\ #2%
797           \jmlr@this@theoremseparator}%
798       ]%
799     \mbox{\jmlr@this@theoremsep
800     \jmlr@this@theorembody
801 }
```

argbegintheorem

```
802 \renewcommand*{\@opargbegintheorem}[3]{%
803   \ifdef{\@jmlr@currentthm}%
804   {%
805     \letcs{\jmlr@this@theoremheader}{\jmlr@thm@\@jmlr@currentthm @header@font}%
806     \letcs{\jmlr@this@theorembody}{\jmlr@thm@\@jmlr@currentthm @body@font}%
807     \letcs{\jmlr@this@theoremsep}{\jmlr@thm@\@jmlr@currentthm @sep}%
808     \letcs{\jmlr@this@theoremseparator}{\jmlr@thm@\@jmlr@currentthm @postheader}%
809     {\jmlr@thm@\@jmlr@currentthm @postheader}%
810   }%
811   {%
812     \let\jmlr@this@theorembody\@theorembodyfont
813     \let\jmlr@this@theoremheader\@theoremheaderfont
814     \let\jmlr@this@theoremsep\@theoremsep
815     \let\jmlr@this@theoremseparator\@theoremseparator
816   }%
817   \trivlist
818     \item[\hskip\labelsep{\jmlr@this@theoremheader #1\ #2\ (#3)%
819       \jmlr@this@theoremseparator}]%
820     \mbox{\jmlr@this@theoremsep
821     \jmlr@this@theorembody
822 }
```

```

example
823 \newtheorem{example}{Example}

theorem
824 \newtheorem{theorem}{Theorem}

lemma
825 \newtheorem{lemma}[theorem]{Lemma}

proposition
826 \newtheorem{proposition}[theorem]{Proposition}

remark
827 \newtheorem{remark}[theorem]{Remark}

corollary
828 \newtheorem{corollary}[theorem]{Corollary}

definition
829 \newtheorem{definition}[theorem]{Definition}

conjecture
830 \newtheorem{conjecture}[theorem]{Conjecture}

axiom
831 \newtheorem{axiom}[theorem]{Axiom}

\orgvec Keep a copy of original \vec in case it's wanted.
832 \let\orgvec\vec

\vec Redefine \vec to produce a bold symbol
833 \renewcommand*{\vec}[1]{\boldsymbol{#1}}

enumerate* Define an enumerate style environment where the nested environments all use the same
counter. It uses the enumi counter.
834 \newenvironment{enumerate*}%
835 {%
836 \ifnum \@enumdepth=0\relax
837 \setcounter{enumi}{0}%
838 \fi
839 \ifnum \@enumdepth>\thr@@
840 \@toodeep
841 \else
842 \advance \@enumdepth\@ne
843 \def\@enumctr{enumi}%
844 \list
845 {\labelenumi}%

```

```

846     {\@nmbulisttrue\def\@listctr{enumi}%
847     \def\makelabel##1{\hss\llap{##1}}}%
848 \fi
849 }%
850 {\endlist}

```

`altdescription` Define a description like environment where the indent is computed from the widest label. The optional argument is the widest label.

```

851 \newenvironment{altdescription}[1]%
852   {\list{}}%
853   {%
854     \settowidth{\labelwidth}{\altdescriptionlabel{#1}}%
855     \setlength{\labelsep}{15pt}%
856     \setlength{\leftmargin}{2\labelsep}%
857     \addtolength{\leftmargin}{\labelwidth}%
858     \setlength{\rightmargin}{\labelsep}%
859     \let\makelabel\altdescriptionlabel
860   }%
861 }%
862 {\endlist}
863
864 \newcommand*{\altdescriptionlabel}[1]{\normalfont\bfseries #1\hfill}

```

`\mailto` Syntax: `\mailto{<address>}`

```

865 \newcommand*{\mailto}[1]{\texttt{#1}}

```

The subfig package breaks `jmlrbook.cls`, so define `\subfig` here. (This is fairly primitive.)

`\c@subfigure` Define subfigure counter:

```

866 \newcounter{subfigure}
867 \@addtoreset{subfigure}{figure}

```

`\thesubfigure`

```

868 \renewcommand*{\thesubfigure}{\alph{subfigure}}

```

`\p@subfigure`

```

869 \renewcommand*{\p@subfigure}{\expandafter\@p@subfigure}
870 \newcommand*{\@p@subfigure}[1]{%
871   \protect\@subfigurelabel{\thefigure}{\thesubfigure}%
872 }

```

`@subfigurelabel` Define how label appears.

```

873 \newcommand*{\@subfigurelabel}[2]{#1\subfigurelabel{#2}}

```

`\subfigref` Reference the sub-figure without including the figure number.

```

874 \newcommand*{\subfigref}[1]{%
875   {%
876     \def\@subfigurelabel##1##2{\subfigurelabel{##2}}%

```

```

877   \ref{#1}%
878 }%
879 }
880 \newcommand*{\subfigref}[1]{%
881   \let\@objectname\@empty
882   \def\@objectref{}%
883   \let\@prevsep\@empty
884   \@for\@thislabel:=#1\do{%
885     \toks@{\@prevsep}%
886     \protected@edef\@objectref{\@objectref\the\toks@
887       \protect\@subfigref{\@thislabel}}%
888     \ifx\@objectname\@empty
889 \let\@objectname\@nil
890     \else
891 \let\@objectname\relax
892       \let\@prevsep\@jmlr@reflistsep
893     \fi
894   }%
895   \ifx\@objectname\relax
896     \let\@prevsep\@jmlr@reflistlastsep
897   \fi
898   \@objectref
899 }

```

\subfigurelabel

```

900 \newcommand*{\subfigurelabel}[1]{(\emph{#1})}

```

@subfloatcapbox Box to store subfloat caption.

```

901 \newsavebox\@subfloatcapbox

```

subfloatcontsbox Box to store subfloat contents.

```

902 \newsavebox\@subfloatcontsbox

```

\subfigure

```

903 \newcommand*{\subfigure}[1] [] {%
904   \bgroup
905   \def\@subfigcap{#1}%
906   \@subfigure
907 }

908 \newcommand*{\@subfigure}[2] [b] {%
909   \advance\c@figure by 1\relax
910   \refstepcounter{subfigure}%
911   \sbox\@subfloatcapbox{\subfigurelabel{\thesubfigure}}%
912   \ifx\@subfigcap\@empty
913   \else
914     \space\@subfigcap
915   \fi}%
916   \sbox\@subfloatcontsbox{#2}%

```

```

917 \settowidth{\@tempdima}{\usebox\@subfloatcontsbox}%
918 \settowidth{\@tempdimb}{\usebox\@subfloatcapbox}%
919 \ifdim\@tempdimb>\@tempdima
920   \settowidth\@tempdimb{\subfigurelabel{\thesubfigure}\space}%
921   \addtolength{\@tempdima}{-\@tempdimb}%
922   \sbox\@subfloatcapbox{\subfigurelabel{\thesubfigure}\space
923     \parbox[t]{\@tempdima}{\@subfigcap}}%
924   \fi
925 \begin{tabular}[#1]{@{}c@{}}%
926 \usebox\@subfloatcontsbox\\ \usebox\@subfloatcapbox
927 \end{tabular}%
928 \egroup
929 }

```

Sub-tables:

`\c@subtable` Define subtable counter:

```

930 \newcounter{subtable}
931 \@addtoreset{subtable}{table}

```

`\thesubtable`

```

932 \renewcommand*{\thesubtable}{\alph{subtable}}

```

`\p@subtable`

```

933 \renewcommand*{\p@subtable}{\expandafter\@p@subtable}
934 \newcommand*{\@p@subtable}[1]{%
935   \protect\@subtablelabel{\thetable}{\thesubtable}%
936 }

```

`\@subtablelabel` Define how label appears.

```

937 \newcommand*\@subtablelabel[2]{#1\subtablelabel{#2}}

```

`\subtabref` Reference the sub-table without including the table number.

```

938 \newcommand*\@subtabref[1]{%
939   {%
940     \def\@subtablelabel##1##2{\subtablelabel{##2}}%
941     \ref{#1}%
942   }%
943 }
944 \newcommand*{\subtabref}[1]{%
945   \let\@objectname\@empty
946   \def\@objectref{}%
947   \let\@prevsep\@empty
948   \@for\@thislabel:=#1\do{%
949     \toks@{\@prevsep}%
950     \protected@edef\@objectref{\@objectref\the\toks@
951       \protect\@subtabref{\@thislabel}}%
952     \ifx\@objectname\@empty
953 \let\@objectname\@nil

```

```

954     \else
955 \let\@objectname\relax
956     \let\@prevsep\@jmlr@reflistsep
957     \fi
958 }%
959 \ifx\@objectname\relax
960     \let\@prevsep\@jmlr@reflistlastsep
961 \fi
962 \@objectref
963 }

```

`\subtablelabel`

```

964 \newcommand*\subtablelabel}[1]{(\emph{#1})}

```

`\subtable`

```

965 \newcommand*\subtable}[1] [] {%
966   \def\@subtabcap{#1}%
967   \@subtable
968 }

969 \newcommand*\@subtable}[2] [t] {%
970   \refstepcounter{subtable}%
971   \sbox\@subfloatcapbox{\subtablelabel{\thesubtable}}%
972   \ifx\@subtabcap\@empty
973   \else
974     \space\@subtabcap
975   \fi}%
976   \sbox\@subfloatcontsbox{#2}%
977   \settowidth{\@tempdima}{\usebox\@subfloatcontsbox}%
978   \settowidth{\@tempdimb}{\usebox\@subfloatcapbox}%
979   \ifdim\@tempdimb>\@tempdima
980     \settowidth\@tempdimb{\subtablelabel{\thesubtable}\space}%
981     \addtolength{\@tempdima}{-\@tempdimb}%
982     \sbox\@subfloatcapbox{\subtablelabel{\thesubtable}\space}
983     \parbox[t]{\@tempdima}{\@subtabcap}}%
984   \fi
985   \begin{tabular}[#1]{@{}c@{}}%
986     \usebox\@subfloatcapbox\\ \usebox\@subfloatcontsbox
987   \end{tabular}
988 }

```

4.1.9 Compatibility with combine.cls

Define chapters to make this class play nicely with combine. These definitions are just copied from book.cls

```

989 \newcounter{chapter}
990 \renewcommand\thechapter{\@arabic\c@chapter}
991 \newcommand\@chapapp{\chaptername}

```

Add sections to the chapter reset.

```
992 \@addtoreset{section}{chapter}
```

`\chaptermark`

```
993 \newcommand*\chaptermark[1] {}
```

Chapters should only be defined when we're combining documents into a book.

`\bookchapter`

```
994 \newcommand\bookchapter{%
995   \if@openright\cleardoublepage\else\clearpage\fi
996   \thispagestyle{plain}%
997   \global\@topnum\z@
998   \@afterindentfalse
999   \secdef\@chapter\@schapter}
```

`\artchapter` Disable chapters for articles.

```
1000 \newcommand\artchapter{%
1001   \ClassError{jmlr}{Chapters not permitted in articles}{}}
```

`\chapter` The default assumes a stand-alone document.

```
1002 \let\chapter\artchapter
```

Label for the chapter entries in the toc.

```
1003 \def\@chaptoclabel{chapter}
```

`\@chapter` Numbered chapters

```
1004 \def\@chapter[#1]#2{\ifnum \c@secnumdepth >\m@ne
1005   \refstepcounter{chapter}%
1006   \if@mainmatter
1007     \typeout{\@chapapp\space\thechapter.}%
1008     \addcontentsline{toc}{\@chaptoclabel}%
1009       {\protect\numberline{\thechapter}#1}%
1010   \else
1011     \addcontentsline{toc}{\@chaptoclabel}{#1}%
1012   \fi
1013 \else
1014   \addcontentsline{toc}{\@chaptoclabel}{#1}%
1015 \fi
1016 \chaptermark{#1}%
1017 \addtocontents{lof}{\protect\addvspace{10\p@}}%
1018 \addtocontents{lot}{\protect\addvspace{10\p@}}%
1019 \if@twocolumn
1020   \@topnewpage[\@makechapterhead{#2}]%
1021 \else
1022   \@makechapterhead{#2}%
1023   \@afterheading
1024 \fi}
```

```

ptertitleformat  Formats the chapter title
1025 \newcommand{\chaptertitleformat}[1]{%
1026   \Huge\bfseries#1%
1027 }

ternumberformat  Formats the chapter number
1028 \newcommand{\chapternumberformat}[1]{%
1029   \huge\bfseries \@chapapp\space#1\par\nobreak
1030   \vskip 20\p@
1031 }

\chapterformat  Overall format for chapter headings
1032 \newcommand*{\chapterformat}{\raggedright}

postchapterskip  Vertical gap after chapter heading
1033 \newlength\postchapterskip
1034 \setlength\postchapterskip{40pt}

\prechapterskip  Vertical gap before chapter heading
1035 \newlength\prechapterskip
1036 \setlength\prechapterskip{50pt}

makechapterhead  Chapter heading for numbered chapters
1037 \def\@makechapterhead#1{%
1038   \null\vskip\prechapterskip
1039   {\parindent \z@ \normalfont\chapterformat
1040     \ifnum \c@secnumdepth >\m@ne
1041       \if@mainmatter
1042         \chapternumberformat{\thechapter}%
1043         \fi
1044         \fi
1045         \interlinepenalty\@M
1046         \chaptertitleformat{#1}\par\nobreak
1047         \vskip \postchapterskip
1048   }}

\@schapter  Unnumbered chapters.
1049 \def\@schapter#1{\if@twocolumn
1050   \topnewpage[\@makeschapterhead{#1}]%
1051   \else
1052     \@makeschapterhead{#1}%
1053     \@afterheading
1054   \fi}

akeschapterhead  Layout for unnumbered chapter headings
1055 \def\@makeschapterhead#1{%
1056   \vspace*{\prechapterskip}%
1057   {\parindent \z@

```



```

1058 \normalfont\chapterformat
1059 \interlinepenalty\@M
1060 \chaptertitleformat{#1}\par\nobreak
1061 \vskip \postchapterskip
1062 }}

```

`\l@chapter` Format for chapter entry in toc

```

1063 \newcommand*\l@chapter[2]{%
1064 \ifnum \c@tocdepth >\m@ne
1065 \addpenalty{-\@highpenalty}%
1066 \vskip 1.0em \@plus\p@
1067 \setlength\@tempdima{1.5em}%
1068 \begingroup
1069 \parindent \z@ \rightskip \@pnumwidth
1070 \parfillskip -\@pnumwidth
1071 \leavevmode \large\bfseries
1072 \advance\leftskip\@tempdima
1073 \hskip -\leftskip
1074 #1\nobreak\hfil \nobreak\hb@xt@\@pnumwidth{\hss #2}\par
1075 \penalty\@highpenalty
1076 \endgroup
1077 \fi}

```

`\l@appendix` Make appendix entries in the toc the same as that for chapters by default

```

1078 \let\l@appendix\l@chapter

```

`\chaptername`

```

1079 \newcommand\chaptername{Chapter}

```

`\frontmatter` Start the front matter (in book)

```

1080 \newcommand\frontmatter{%
1081 \cleardoublepage
1082 \@mainmatterfalse
1083 \renewcommand*{\theHchapter}{front-\thechapter}%
1084 \pagenumbering{roman}%
1085 \morefrontmatter
1086 }
1087 \newcommand\morefrontmatter{}

```

`\mainmatter` Start the main matter (in book)

```

1088 \newcommand\mainmatter{%
1089 \cleardoublepage
1090 \@mainmattertrue
1091 \setcounter{chapter}{0}%
1092 \renewcommand*{\theHchapter}{\thechapter}%
1093 \pagenumbering{arabic}%
1094 \moremainmatter
1095 }
1096 \newcommand\moremainmatter{}

```

`\backmatter` Start the back matter (in book)

```
1097 \newcommand\backmatter{%
1098   \if@openright
1099     \cleardoublepage
1100   \else
1101     \clearpage
1102   \fi
1103   \@mainmatterfalse}
```

`booktocpreamble`

```
1104 \newcommand*\booktocpreamble{}
```

`booktocpostamble`

```
1105 \newcommand*\booktocpostamble{}
```

`tableofcontents` This is for the main table of contents when using the combine class file, and is not for use in individual articles.

```
1106 \newcommand\booktableofcontents{%
1107   \if@twocolumn
1108     \@restonecoltrue\onecolumn
1109   \else
1110     \@restonecolfalse
1111   \fi
1112   \chapter*\contentsname
1113   \@mkboth{\MakeUppercase\contentsname}{\MakeUppercase\contentsname}}%
1114   \booktocpreamble
1115   \@starttoc{toc}%
1116   \booktocpostamble
1117   \if@restonecol
1118     \twocolumn
1119   \else
1120     \clearpage
1121   \fi
1122   \@mkboth{}{}%
1123 }
```

`tableofcontents` Table of contents for individual articles.

```
1124 \let\arttableofcontents\tableofcontents
```

`\artpart` A part in an article

```
1125 \newcommand{\artpart}{%
1126   \def\toclevel@part{0}%
1127   \if@noskipsec \leavevmode\fi
1128   \par
1129   \addvspace{4ex}%
1130   \@afterindentfalse
1131   \secdef\artpart\artpart}
```

```

1132 }
1133 \let\@artpart\@part
1134 \let\@sartpart\@spart

```

`\bookpart` A part in a book forming a collection of articles

```

1135 \newcommand\bookpart{%
1136   \def\toclevel@part{-1}%
1137   \if@openright
1138     \cleardoublepage
1139   \else
1140     \clearpage
1141   \fi
1142   \thispagestyle{plain}%
1143   \if@twocolumn
1144     \onecolumn
1145     \@tempwattrue
1146   \else
1147     \@tempwafalse
1148   \fi
1149   \preparthook
1150   \secdef\@bookpart\@sbookpart}

```

`parttitleformat` Format of the title for a part (in a book)

```

1151 \newcommand{\parttitleformat}[1]{%
1152   \Huge\bfseries#1%
1153 }

```

Part labels

```

1154 \newcommand*{\@parttoclabel}{part}

```

`\@partapp`

```

1155 \def\@partapp{\partname}

```

`partnumberformat` Format of the part number (in a book)

```

1156 \newcommand{\partnumberformat}[1]{%
1157   \Huge\bfseries \@partapp\nobreakspace#1\par\nobreak
1158   \vskip 20\p@
1159 }

```

`\preparthook` Hook at the start of a part (in a book)

```

1160 \newcommand{\preparthook}{\null\vfil}

```

`\partformat` Overall format of part

```

1161 \newcommand*{\partformat}{\centering}

```

`\@bookpart` Numbered book part format

```

1162 \def\@bookpart[#1]#2{%

```

```

1163 \ifnum \c@secnumdepth >-2\relax
1164   \refstepcounter{part}%
1165   \addcontentsline{toc}{\@parttoclabel}{\protect\numberline{\thepart}#1}%
1166 \else
1167   \addcontentsline{toc}{\@parttoclabel}{#1}%
1168 \fi
1169 \markboth{}{}%
1170 {\interlinepenalty \@M
1171  \normalfont\partformat
1172  \ifnum \c@secnumdepth >-2\relax
1173   \partnumberformat{\thepart}%
1174  \fi
1175  \parttitleformat{#2}\par}%
1176 \postparthook}

```

`\@sbookpart` Unnumbered book part format

```

1177 \def\@sbookpart#1{%
1178   {\interlinepenalty \@M
1179    \normalfont\partformat
1180    \parttitleformat{#1}\par}%
1181  \postparthook}

```

`\postparthook` Hook after part heading

```

1182 \def\postparthook{\vfil\newpage
1183   \if@twoside
1184   \if@openright
1185     \null
1186     \thispagestyle{empty}%
1187     \newpage
1188   \fi
1189 \fi
1190 \if@tempwa
1191   \twocolumn
1192 \fi}

```

`\bookappendix` Switch to appendices in book

```

1193 \newcommand\bookappendix{\par
1194  \setcounter{table}{0}%
1195  \setcounter{figure}{0}%
1196  \zeroextracounters
1197  \par
1198  \gdef\theHchapter{\Alph {chapter}}%
1199  \xdef\Hy@chapapp{\Hy@appendixstring}%
1200  \setcounter{chapter}{0}%
1201  \setcounter{section}{0}%
1202  \gdef\@chapapp{\appendixname}%
1203  \gdef\thechapter{\@Alph\c@chapter}%
1204  \def\@write@jmlr@import{\@write@jmlr@apdimport}%
1205  \csname appendixmore\endcsname

```

1206 }

Define commands to switch between book/article modes

jmlrbookcommands Switch to book commands

```
1207 \newcommand*{\jmlrbookcommands}{%
1208   \let\part\bookpart
1209   \let\chapter\bookchapter
1210   \let\appendix\bookappendix
1211   \let\tableofcontents\booktableofcontents
1212   \def\thesection{\thechapter.\arabic{section}}%
1213 }
```

jmlrarticlecommands Switch to article commands

```
1214 \newcommand*{\jmlrarticlecommands}{%
1215   \let\part\artpart
1216   \let\chapter\artchapter
1217   \let\appendix\artappendix
1218   \let\tableofcontents\arttableofcontents
1219   \def\thesection{\arabic{section}}%
1220 }
```

Check for packages that are known to cause problems when combining articles into a book.

@check@packages

```
1221 \newcommand*{@jmlr@check@packages}{%
1222   \@ifpackageloaded{epsfig}{%
1223     \ClassError{jmlr}{Obsolete package ‘epsfig’ detected.
1224     \MessageBreak
1225     Please use \string\includegraphics\space to include images
1226     instead}}}{}%
1227   \@ifpackageloaded{psfig}{%
1228     \ClassError{jmlr}{Obsolete package ‘psfig’ detected.
1229     \MessageBreak
1230     Please use \string\includegraphics\space to include images
1231     instead}}}{}%
1232   \@ifpackageloaded{subfig}{%
1233     \ClassError{jmlr}{Package ‘subfig’ detected.\MessageBreak
1234     This will cause a conflict if the article is incorporated
1235     \MessageBreak
1236     into a book using jmlbook.cls.
1237     \MessageBreak
1238     Please use \string\subfigure\space and
1239     \string\subtable\space instead}}}{}%
1240   \@ifpackageloaded{theorem}{%
1241     \ClassError{jmlr}{Package ‘theorem’ detected.\MessageBreak
1242     This can cause a conflict with other packages used by jmlr}}}{}%
1243   \@ifpackageloaded{ntheorem}{%
1244     \ClassError{jmlr}{Package ‘ntheorem’ detected.\MessageBreak
1245     This can cause a conflict with other packages used by jmlr}}}{}%
```

```

1246 \@ifpackageloaded{amsthm}{%
1247   \ClassError{jmlr}{Package ‘amsthm’ detected.\MessageBreak
1248     This package conflicts with the jmlr class}{}}{}%
1249 \@ifpackageloaded{pdfpages}{Package ‘pdfpages’ detected.\MessageBreak
1250   This can cause a problem for jmlrbook}{}}{}%
1251 \@ifpackageloaded{geometry}{Package ‘geometry’ detected.\MessageBreak
1252   This can cause a problem for jmlrbook}{}}{}%
1253 \@ifpackageloaded{tabularx}{%
1254   \ClassError{jmlr}{Package ‘tabularx’ detected.\MessageBreak
1255     This will break footnote links}{}}{}%

1256 \@ifpackageloaded{jmlr2e}{%
1257   \ClassError{jmlr}{Package ‘jmlr2e’ detected.\MessageBreak
1258     This can’t be used with the jmlr class}{}}{}%
1259 }
1260 \AtBeginDocument{%
1261 \@jmlr@check@packages
1262 \let\@jmlr@check@packages\relax
1263 }

```

ssPackageChecks Don't check for potentially problematic packages. (If I find this in any paper sent to me for inclusion in a book, it will annoy me.)

```

1264 \newcommand*{\jmlrSuppressPackageChecks}{%
1265   \let\@jmlr@check@packages\relax
1266 }

```

Discourage authors from using obsolete commands:

\obsoletefontcs

```

1267 \DeclareRobustCommand*\obsoletefontcs[1]{%
1268   \ClassWarning{jmlr}{Obsolete command
1269     \expandafter\string\csname#1\endcsname\space detected}%
1270   \csname #1 \endcsname
1271 }

```

\bf

```

1272 \renewcommand*\bf{%
1273   \obsoletefontcs{bf}%
1274 }

```

\it

```

1275 \renewcommand*\it{%
1276   \obsoletefontcs{it}%
1277 }

```

\sc

```

1278 \renewcommand*\sc{%
1279   \obsoletefontcs{sc}%
1280 }

```

```

\rm
1281 \renewcommand*{\rm}{%
1282   \obsoletefontcs{rm}%
1283 }

```

```

\sf
1284 \renewcommand*{\sf}{%
1285   \obsoletefontcs{sf}%
1286 }

```

```

\tt
1287 \renewcommand*{\tt}{%
1288   \obsoletefontcs{tt}%
1289 }

```

ckforpseudocode Check for pseudocode package since it conflicts with the algorithm package and quite often both packages are used in the same book or proceedings.

```

1290 \providecommand*\jmlrcheckforpseudocode{%
1291   \@ifpackageloaded{pseudocode}%
1292   {%
1293     \let\pseudoRETURN\RETURN
1294     \let\pseudoTRUE\TRUE
1295     \let\pseudoFALSE\FALSE
1296     \let\pseudoAND\AND
1297     \let\pseudoOR\OR
1298     \let\pseudoNOT\NOT
1299     \let\pseudoTO\TO
1300     \let\pseudoCOMMENT\COMMENT
1301     \let\pseudoIF\IF
1302     \let\pseudoELSE\ELSE
1303     \let\pseudoFOR\FOR
1304     \let\pseudoFORALL\FORALL
1305     \let\pseudoWHILE\WHILE
1306     \let\pseudoREPEAT\REPEAT
1307     \let\pseudoUNTIL\UNTIL
1308     \let\pseudoENDFOR\ENDFOR
1309     \let\RETURN\undefined
1310     \let\TRUE\undefined
1311     \let\FALSE\undefined
1312     \let\AND\undefined
1313     \let\OR\undefined
1314     \let\NOT\undefined
1315     \let\TO\undefined
1316     \let\COMMENT\undefined
1317     \let\IF\undefined
1318     \let\ELSE\undefined
1319     \let\FOR\undefined
1320     \let\FORALL\undefined
1321     \let\WHILE\undefined

```

```

1322 \let\REPEAT\undefined
1323 \let\UNTIL\undefined
1324 \let\ENDFOR\undefined
1325 \preto\pseudocode{%
1326 \let\RETURN\pseudoRETURN
1327 \let\TRUE\pseudoTRUE
1328 \let\FALSE\pseudoFALSE
1329 \let\AND\pseudoAND
1330 \let\OR\pseudoOR
1331 \let\NOT\pseudoNOT
1332 \let\TO\pseudoTO
1333 \let\COMMENT\pseudoCOMMENT
1334 \let\IF\pseudoIF
1335 \let\ELSE\pseudoELSE
1336 \let\FOR\pseudoFOR
1337 \let\FORALL\pseudoFORALL
1338 \let\WHILE\pseudoWHILE
1339 \let\REPEAT\pseudoREPEAT
1340 \let\UNTIL\pseudoUNTIL
1341 \let\ENDFOR\pseudoENDFOR
1342 }%
1343 }%
1344 {}%
1345 }
1346 \jmlrcheckforpseudocode

```

4.2 jmlrbook.cls Code

Class file for books composed of articles using the jmlr class.

```
1347 \NeedsTeXFormat{LaTeX2e}
```

Declare class:

```
1348 \ProvidesClass{jmlrbook}[2017/03/09 v1.23 (NLCT) JMLR Book Style]
```

Need xkeyval package to have key=value class options

```
1349 \RequirePackage{xkeyval}
```

Requires double spacing for the title page

```
1350 \RequirePackage{setspace}
```

Path used to determine if the preface is in the main document or in a separate file.

jmlrprefacefile

```
1351 \newcommand*\jmlrprefacepath{}
```

The fink package is now deprecated, so only use it if currfile isn't installed.

```
1352 \IfFileExists{currfile.sty}%
```

```
1353 {
```

```
1354 \RequirePackage{currfile}
```

```
1355 \renewcommand*\jmlrprefacepath{\currfilepath}
```



```

1356 }%
1357 {%

1358 \RequirePackage{fink}
1359 \ifdef\finkpath
1360 {%
1361   \renewcommand*\jmlrprefacepath{\finkpath}%
1362 }
1363 {%

    fink version too old.
1364   \ClassWarning{jmlrbook}{Install 'currfile' package or update
1365     'fink' package}
1366 }
1367 }

    Some packages need to be loaded before hyperref so provide a hook to do this:
1368 \providecommand*\jmlrprehyperref{}

```

`\ifgrayscale` Determine whether to select color or grayscale

```

1369 \newif\ifgrayscale
1370 \grayscalefalse

```

`draft`

```

1371 \DeclareOptionX{draft}{\setlength\overfullrule{5pt}}

```

`final`

```

1372 \DeclareOptionX{final}{\setlength\overfullrule{0pt}}

```

`color`

```

1373 \DeclareOptionX{color}{\grayscalefalse}

```

`gray`

```

1374 \DeclareOptionX{gray}{\grayscaletrue}

```

Pass letterpaper and 7x10 to jmlr.

`letterpaper`

```

1375 \DeclareOptionX{letterpaper}{\PassOptionsToClass{\CurrentOption}{jmlr}}

```

`7x10`

```

1376 \DeclareOptionX{7x10}{\PassOptionsToClass{\CurrentOption}{jmlr}}

```

Pass html and nohtml to jmlr. (Used by makejmlrbookgui)

`html`

```

1377 \DeclareOptionX{html}{\PassOptionsToClass{\CurrentOption}{jmlr}}

```

`nohtml`

```

1378 \DeclareOptionX{nohtml}{\PassOptionsToClass{\CurrentOption}{jmlr}}

```

lrrprefaceheader

```
1379 \newcommand*{\jmlrrprefaceheader}{%
1380   \phantomsection
1381   \chapter*{\prefacename}%
1382   \addcontentsline{toc}{chapter}{\prefacename}%
1383   \markboth{\prefacename}{\prefacename}%
1384 }
```

Pass wcp, pmlr and nowcp options to jmlr and set preface header.

wcp

```
1385 \DeclareOptionX{wcp}{%
1386   \PassOptionsToClass{\CurrentOption}{jmlr}%
1387 }
```

pmlr

```
1388 \DeclareOptionX{pmlr}{%
1389   \PassOptionsToClass{\CurrentOption}{jmlr}%
1390 }
```

nowcp

```
1391 \DeclareOptionX{nowcp}{%
1392   \PassOptionsToClass{\CurrentOption}{jmlr}%
1393 }
```

Pass tablecaptiontop and tablecaptionbottom options to jmlr.

tablecaptiontop

```
1394 \DeclareOptionX{tablecaptiontop}{\PassOptionsToClass{\CurrentOption}{jmlr}}
```

tablecaptionbottom

```
1395 \DeclareOptionX{tablecaptionbottom}{\PassOptionsToClass{\CurrentOption}{jmlr}}
```

Pass font size commands to jmlr

10pt

```
1396 \DeclareOptionX{10pt}{\PassOptionsToClass{\CurrentOption}{jmlr}}
```

11pt

```
1397 \DeclareOptionX{11pt}{\PassOptionsToClass{\CurrentOption}{jmlr}}
```

12pt

```
1398 \DeclareOptionX{12pt}{\PassOptionsToClass{\CurrentOption}{jmlr}}
```

Switch on two-side mode by default

```
1399 \@twosidetrue
```

oneside

```
1400 \DeclareOptionX{oneside}{\@twosidefalse \@mparswitchfalse}
```

twoside

```
1401 \DeclareOptionX{twoside}{\@twosidetrue \@mparswitchtrue}
```

pdfxa

```
1402 \define@boolkey{jmlrbook.cls}[jmlr]{pdfxa}[true]{}
1403 \jmlrpdfxafalse
```

Process options

```
1404 \ProcessOptionsX
```

If `\jmlrgrayscale` has been defined, let it override the class options. If it is defined, it should be set to 0 for the online version and any other number for the grayscale print version.

```
1405 \@ifundefined{jmlrgrayscale}{}%
1406 {%
1407   \ifnum\jmlrgrayscale=0\relax
1408   \grayscalefalse
1409   \else
1410   \grayscaletrue
1411   \fi
1412 }
```

This next bit is a modification of `pdfx`. It's only used for the print version when the `pdfxa` option is used.

```
1413 \ifgrayscale
1414   \newcommand*{\jmlrwritepdfinfo}{%
1415     \protected@write\@auxout{}{\string\jmlrbook@info{\xmpAuthor}{\xmpTitle}}%
1416   }
1417   \ifjmlrpdfxa
1418     \def\convertDate{\getYear}
1419     {\catcode'\D=12
1420     \gdef\getYear D:#1#2#3#4{\edef\xYear{#1#2#3#4}\getMonth}
1421     }
1422     \def\getMonth#1#2{\edef\xMonth{#1#2}\getDay}
1423     \def\getDay#1#2{\edef\xDay{#1#2}\getHour}
1424     \def\getHour#1#2{\edef\xHour{#1#2}\getMin}
1425     \def\getMin#1#2{\edef\xMin{#1#2}\getSec}
1426     \def\getSec#1#2{\edef\xSec{#1#2}\getTZh}
1427     {%
1428       \catcode'\Z=12
1429       \gdef\tmpz{Z}
1430     }
1431     \def\hash{\expandafter\@gobble\string\#}%
1432     \def\amp{\expandafter\@gobble\string\&}%
1433     \def\xmpAmp{\amp\hash x0026;}%
1434     \def\sep{</rdf:li><rdf:li>}
1435     \def\TextCopyright{\amp\hash x00A9;}
1436     \def\Title#1{\gdef\xmpTitle{#1}}
1437     \def\Author#1{\gdef\xmpAuthor{#1}}
1438     \def\Keywords#1{\gdef\xmpKeywords{#1}}
```

```

1439 \let\xmpKeywords\@empty
1440 \let\xmpSubject\xmpKeywords
1441 \def\Creator#1{\gdef\xmpCreator{#1}}
1442 \def\xmpCreator{\@pdfcreator}
1443 \def\Producer#1{\gdef\xmpProducer{#1}}
1444 \def\xmpProducer{pdfTeX}
1445 \def\Volume#1{\gdef\xmpVolume{#1}}
1446 \let\xmpVolume\@empty
1447 \def\Issue#1{\gdef\xmpIssue{#1}}
1448 \let\xmpIssue\@empty
1449 \def\CoverDisplayDate#1{\gdef\xmpCoverDisplayDate{#1}}
1450 \let\xmpCoverDisplayDate\@empty
1451 \def\CoverDate#1{\gdef\xmpCoverDate{#1}}
1452 \let\xmpCoverDate\@empty
1453 \def\Copyright#1{\gdef\xmpCopyright{#1}}
1454 \let\xmpCopyright\@empty
1455 \def\Doi#1{\gdef\xmpDoi{#1}}
1456 \let\xmpDoi\@empty
1457 \def\Lastpage#1{\gdef\xmpLastpage{#1}}
1458 \let\xmpLastpage\@empty
1459 \def\Firstpage#1{\gdef\xmpFirstpage{#1}}
1460 \let\xmpFirstpage\@empty
1461 \def\Journaltitle#1{\gdef\xmpJournaltitle{#1}}
1462 \let\xmpJournaltitle\@empty
1463 \def\Journalnumber#1{\gdef\xmpJournalnumber{#1}}
1464 \let\xmpJournalnumber\@empty
1465 \def\Org#1{\gdef\xmpOrg{#1}}
1466 \let\xmpOrg\@empty
1467 \def\CreatorTool#1{\gdef\xmpCreatorTool{#1}}
1468 \def\xmpCreatorTool{\xmpProducer}
1469 \def\AuthoritativeDomain#1{\gdef\xmpAuthoritativeDomain{#1}}
1470 \let\xmpAuthoritativeDomain\@empty
1471 \def\findUUID#1{\edef\tmpstring{\pdfmdfivesum{#1}}
1472 \expandafter\eightofnine\tmpstring\end}
1473 \def\eightofnine#1#2#3#4#5#6#7#8#9\end{%
1474 \xdef\eightchars{#1#2#3#4#5#6#7#8}
1475 \fouroffive#9\end}
1476 \def\fouroffive#1#2#3#4#5\end{\xdef\ffourchars{#1#2#3#4}
1477 \sfouroffive#5\end}
1478 \def\sfouroffive#1#2#3#4#5\end{\xdef\sfourchars{#1#2#3#4}
1479 \tfouroffive#5\end}
1480 \def\tfouroffive#1#2#3#4#5\end{\xdef\tfourchars{#1#2#3#4}
1481 \xdef\laststring{#5}}
1482 \def\uuid{\eightchars-%
1483 \ffourchars-%
1484 \sfourchars-%
1485 \tfourchars-%
1486 \laststring}

```

`\getTZh` This is a modification of the command from pdfx that also works for zero and negative hours.

```
1487 \def\getTZh#1{%
1488   \def\TZprefix{#1}%
1489   \ifx\TZprefix\tmpz
1490     \def\xTZsign{+}%
1491     \def\xTZh{00}%
1492     \def\xTZm{00}%
1493     \let\getTZnext\doConvDate
1494   \else
1495     \let\xTZsign\TZprefix
1496     \let\getTZnext\getTZhm
1497   \fi
1498   \getTZnext
1499 }
```

`\getTZm` This is a modified version of the command from pdfx.

```
1500 \def\getTZhm#1#2'#3#4' {%
1501   \edef\xTZh{#1#2}%
1502   \edef\xTZm{#3#4}%
1503   \doConvDate
1504 }
```

`\doConvDate` Defines the date using information derived from parsing `\pdfcreationdate`

```
1505 \def\doConvDate{%
1506   \edef\convDate{\xYear-\xMonth-\xDay
1507     T\xHour:\xMin:\xSec\xTZsign\xTZh:\xTZm}%
1508 }
```

`\@pre@hyperref` This macro contains a trimmed down version of pdfx.

```
1509 \newcommand{\@pre@hyperref}{%
1510   \IfFileExists{FOGRA39L.icc}%
1511   {%
1512     \pdfminorversion=3
1513     \pdfpageattr{/MediaBox[0 0 595 793]
1514       /BleedBox[0 0 595 793]
1515       /TrimBox[25 20 570 773]}%
1516     \findUUID{\jobname.pdf}%
1517     \edef\xmpdocid{\uuid}%
1518     \findUUID{\pdfcreationdate}%
1519     \edef\xmpinstid{\uuid}%
1520     \InputIfFileExists{\jobname.xmpdata}{-}{-}%
1521     \RequirePackage{xmpincl}%
1522     \expandafter\convertDate\pdfcreationdate
1523     \def\@pctchar{\expandafter\@gobble\string\%}
1524     \def\@bchar{\expandafter\@gobble\string\}
1525     \immediate\pdfobj stream attr{/N 4} file{FOGRA39L.icc}
1526     \edef\OBJ@CVR{\the\pdflastobj}
1527     \pdfcatalog{/OutputIntents [ <<
1528       /Type/OutputIntent
```

```

1529 /S/GTS_PDFX
1530 /OutputCondition (FOGRA39)
1531 /OutputConditionIdentifier (FOGRA39 \@bchar(ISO Coated v2
1532 300\@pctchar\space \@bchar(ECI\@bchar)\@bchar))
1533 /DestOutputProfile \OBJ@CVR\space 0 R
1534 /RegistryName(http://www.color.org)
1535 >> ]}
1536 \input glyphtounicode.tex
1537 \input glyphtounicode-cmr.tex
1538 \pdfgentounicode=1
1539 \RequirePackage[draft,pdftex,pdfpagemode=UseNone,bookmarks=false]{hyperref}%
1540 }%
1541 {%
1542 \ClassError{jmlrbook}{Can't find 'FOGRA39L.icc'}%
1543 {Download ISOcoated\string_v2\string_330\string_bas.icc from
1544 http://www.colormangement.org/en/isoprofile.html
1545 Rename it FOGRA39L.icc and put it in the pdfx folder}%
1546 }%
1547 }
1548 \renewcommand*{\jmlrwritepdfinfo}{%
1549 \begingroup
1550 \let\&=\xmpAmp
1551 \IfFileExists{pdfx-1a.xmp}{%
1552 \pdfcompresslevel=0
1553 \immediate\pdfobj stream attr {/Type /Metadata /Subtype /XML}
1554 file{pdfx-1a.xmpi}
1555 \pdfcatalog{/Metadata \the\pdflastobj\space 0 R}
1556 }%
1557 }%
1558 \endgroup
1559 \protected@write@auxout{}{\string\jmlrbook@info{\xmpAuthor}{\xmpTitle}}%
1560 \pdfinfo{
1561 /Author(\xmpAuthor)%
1562 /Title(\xmpTitle)%
1563 /Creator(\xmpProducer)%
1564 /CreationDate(\convDate)%
1565 /ModDate(\convDate)%
1566 /Producer(\xmpProducer)%
1567 /Trapped /False
1568 /GTS_PDFXVersion (PDF/X-1:2001)%
1569 /GTS_PDFXConformance (PDF/X-1a:2001)%
1570 }%
1571 }

1572 \fi
1573 \else
1574 \newcommand*{\jmlrwritepdfinfo}{}
1575 \fi

```

`\jmlrbook@info` Not needed (information provided for MakeJmlrBookGUI)

```
1576 \newcommand*{\jmlrbook@info}[2] {}
```

`\jmlrbook@location` Not needed (information provided for MakeJmlrBookGUI)

```
1577 \newcommand*{\jmlrbook@location}[1] {}
```

`\@post@hyperref`

```
1578 \newcommand*{\@post@hyperref}{%
1579   \let\@org@c@lenddoca\c@lenddoca
1580   \let\c@lenddoca\undefined
1581 }
```

Load combine class. This requires a little bit of trickery.

```
1582 \let\@org@LoadClass\LoadClass
1583 \def\LoadClass#1{\let\LoadClass\@org@LoadClass\@org@LoadClass{jmlr}}
1584 \@org@LoadClass{combine}
1585 \let\c@lenddoca\@org@c@lenddoca
```

Requires `combnat` to work with `natbib`:

```
1586 \RequirePackage{combnat}
```

Need to apply a patch to `combnat` (this has now been fixed in `combnat`, but user might be using an old version):

```
1587 \renewcommand\c@l@n@t@p@r@se[1]{%
1588   \let\protect=\@unexpandable@protect\let~\relax
1589   \let\active@prefix=\@gobble
1590   \xdef\NAT@temp{\csname b@#1\@extra@b@c@i@t@e\b@e\endcsname}}%
1591   \expandafter\NAT@split\NAT@temp?????@%
1592   \expandafter\NAT@p@r@se@d@t@e\NAT@date?????@%
1593   \ifciteindex\NAT@index\fi}
1594
1595 \renewcommand\c@l@b@n@t@p@r@se[1]{%
1596   \let\protect=\@unexpandable@protect\let~\relax
1597   \let\active@prefix=\@gobble
1598   \xdef\NAT@temp{\csname B?\jobname?@#1\@extra@b@c@i@t@e\b@e\endcsname}}%
1599   \expandafter\NAT@split\NAT@temp?????@%
1600   \expandafter\NAT@p@r@se@d@t@e\NAT@date?????@%
1601   \ifciteindex\NAT@index\fi}
```

Start new chapters on the right hand page:

```
1602 \newif\if@openright
1603 \@openrighttrue
1604 \newif\if@mainmatter
```

Define commands that affect the formatting:

`\pagerule` Draw line across the text block.

```
1605 \newcommand*{\pagerule}[1] [0pt]{\par\noindent
1606   \rule[#1]{\linewidth}{2pt}\par}
```

preface The preface environment starts a new chapter but also writes information to the main aux file for makejmlrbook. The optional argument is the file name for the extracted preface.

```

1607 \ifjmlrhtml
1608   \newenvironment{preface}[1][preface]%
1609   {%
1610     \noindent\HCode{<h2>\prefacename</h2>}%
1611   }%
1612   {%
1613   }
1614 \else
1615   \newenvironment{preface}[1][preface]%
1616   {%

1617     \jmlrprefaceheader
1618     \protected@write\@mainauxout
1619       {\string\@prefacestart{\thepage}{\arabic{page}}}%
1620     \protected@write\@mainauxout{\string\@prefacefile{\jmlrprefacepath}{#1}}%
1621   }%
1622   {%
1623     \protected@write\@mainauxout{\string\@prefaceend{\thepage}}%
1624   }
1625 \fi

```

\prefacename

```
1626 \newcommand*\prefacename{Preface}
```

\@prefacefile

```
1627 \newcommand*\@prefacefile[2]{}
```

\@prefacestart

```
1628 \newcommand*\@prefacestart[2]{}
```

\@prefaceend

```
1629 \newcommand*\@prefaceend[1]{}
```

\@prefaceeditor

```
1630 \newcommand*\@prefaceeditor[1]{}
```

Cross-reference chapters:

```
1631 \newcommand*\chapterrefname{Chapter}
```

```
1632 \newcommand*\chaptersrefname{Chapters}
```

\chapterref

```
1633 \newcommand*\chapterref[1]{%
```

```
1634   \objectref{#1}{\chapterrefname}{\chaptersrefname}{}}
```

Cross-referencing imported articles:


```

\articlepageref  Page number of start of article
1635 \newcommand*{\articlepageref}[1]{%
1636   \pageref{#1jmlrstart}%
1637 }

articlepagesref  Page range of article
1638 \newcommand*{\articlepagesref}[1]{%
1639   \pageref{#1jmlrstart}--\pageref{#1jmlrend}%
1640 }

articlepagesref  Page range of article for use within the article
1641 \newcommand*{\@articlepagesref}{%
1642   \pageref{jmlrstart}--\pageref{jmlrend}%
1643 }

articletitleref  Reference the short title of an imported article
1644 \newcommand*{\articletitleref}[1]{\nameref{#1jmlrstart}}

articleauthorref  Reference the authors of an imported article
1645 \newcommand*{\articleauthorref}[1]{%
1646   \@ifundefined{@jmlr@author@#1}%
1647   {%
1648     \ClassWarning{jmlrbook}{Label ‘#1’ undefined}%
1649   }%
1650   {%
1651     \@nameuse{@jmlr@author@#1}%
1652   }%
1653 }

\jmlrtitlehook  Extra title information
1654 \renewcommand*\jmlrtitlehook{%
1655   \hypersetup{pdftitle={\@shorttitle}}%
1656   \def\xmpTitle{\@shorttitle}%
1657   \let\jmlrtitlehook\relax
1658 }
1659 \providecommand*\xmpTitle{\@title}%

\jmlrauthorhook
1660 \renewcommand*\jmlrauthorhook{%
1661   \ifx@sauthor\@empty
1662     \hypersetup{pdfauthor={\@author}}%
1663   \else
1664     \hypersetup{pdfauthor={\@sauthor}}%
1665   \fi
1666   \def\xmpAuthor{\@sauthor}%
1667   \let\jmlrauthorhook\relax
1668   \let\@shortauthor\@empty
1669 }
1670 \providecommand*\xmpAuthor{\@author}%

```

`\subtitle`

```
1671 \newcommand*{\@subtitle}{}  
1672 \newcommand*{\subtitle}[1]{\renewcommand*{\@subtitle}{#1}}
```

`\volume`

```
1673 \newcommand*{\@volume}{\@jmlrvolume}  
1674 \newcommand*{\volume}[1]{%  
1675   \renewcommand*{\@volume}{#1}%  
1676   \ifjmlrpdfxa  
1677     \let\xmpVolume\@volume  
1678   \fi  
1679 }
```

`\jmlrissue`

```
1680 \newcommand*{\@issue}{\@jmlrissue}  
1681 \newcommand*{\issue}[1]{%  
1682   \renewcommand*{\@issue}{#1}%  
1683   \ifjmlrpdfxa  
1684     \let\xmpIssue\@issue  
1685   \fi  
1686 }
```

`thejmlrworkshop` Provided in the event that it's required for the title page.

```
1687 \newcommand*{\thejmlrworkshop}{\@jmlrworkshop}
```

`\team`

```
1688 \newcommand*{\@team}{}  
1689 \newcommand*{\team}[1]{\renewcommand*{\@team}{#1}}
```

`\jmlrlocation`

```
1690 \newcommand*{\@jmlrlocation}{}  
1691 \newcommand*{\jmlrlocation}[1]{%  
1692   \renewcommand*{\@jmlrlocation}{#1}%  
1693   \protected@write\@auxout{}{\string\jmlrbook@location{#1}}%  
1694 }
```

`ctioneditorname`

```
1695 \newcommand*{\@productioneditorname}{Production Editor}
```

`roductioneditor`

```
1696 \newcommand*{\@productioneditor}{}  
1697 \newcommand*{\productioneditor}[1]{%  
1698   \renewcommand*{\@productioneditor}{#1}%  
1699   \renewcommand*{\@productioneditorname}{Production Editor}%  
1700 }
```

roductioneditors

```
1701 \newcommand*\productioneditors}[1]{%
1702   \renewcommand*\@productioneditor}{#1}%
1703   \renewcommand*\@productioneditorname}{Production Editors}%
1704 }
```

\logo Title page image

```
1705 \newcommand*\@logo{}
1706 \newcommand*\logo}[2] [] {%
1707   \ifjmlrhtml
1708     \def\@logo@tmp{#1}%
1709     \ifx\@logo@tmp\@empty
1710       \renewcommand*\@logo}{#2}%
1711     \else
1712       \renewcommand*\@logo}{\HCode{<a href="#1">}#2\HCode{</a>}}%
1713     \fi
1714   \else
1715     \renewcommand*\@logo}{#2}%
1716   \fi
1717 }
```

\booklinebreak Provided for book production editors to fine tune the book line breaking.

```
1718 \renewcommand*\booklinebreak}[1] [4] {\linebreak[#1]}
```

Set article title

```
1719 \def\c@lbmaketitle{\jmlrmaketitle}
```

The book's title:

\maintitle

```
1720 \newcommand*\maintitle{}{}
```

Make it easier to modify the book's title page:

SetTitleElement

```
1721 \newcommand*\SetTitleElement}[3] {%
1722   {%
1723     \expandafter\ifx\csname @#1\endcsname\@empty
1724     \else
1725       #2\csname @#1\endcsname#3%
1726     \fi
1727   }%
1728 }
```

\IfTitleElement Determine if the given element has been set:

```
1729 \newcommand*\IfTitleElement}[3] {%
1730   \expandafter\ifx\csname @#1\endcsname\@empty
1731     #2%
1732   \else
```

```

1733     #3%
1734     \fi
1735 }

```

```
\titlebody
```

```

1736 \newcommand{\titlebody}{%
1737   \SetTitleElement{title}{\maintitlefont}{\postmaintitle}%
1738   \SetTitleElement{volume}{\mainvolumeont}{\postmainvolume}%
1739   \SetTitleElement{subtitle}{\mainsubtitlefont}{\postmainsubtitle}%
1740   \SetTitleElement{logo}{\mainlogofont}{\postmainlogo}%
1741   \SetTitleElement{team}{\mainteamfont}{\postmainteam}%
1742   \SetTitleElement{author}{\mainauthorfont}{\postmainauthor}%
1743   \SetTitleElement{productioneditor}{\mainproductioneditorfont}%
1744     {\postmainproductioneditor}%
1745 }

```

```
\c@lamaketitle
```

```

1746 \ifjmlrhtml
1747   \renewcommand{\c@lamaketitle}{%
1748     \HCode{<table cellpadding="2" cellspacing="2" border="0" width="100\%">}%
1749     \HCode{<tbody><tr><td valign="top">}%
1750     \HCode{<h1>}%
1751     \@title\newline
1752     \ifx\@jmlrvolume\@empty
1753       \ifx\@volume\@empty
1754         \else
1755           Volume \@volume
1756           \ifx\@subtitle\@empty\else: \fi
1757         \fi
1758       \else
1759         Volume \@jmlrvolume
1760         \ifx\@subtitle\@empty\else: \fi
1761       \fi
1762       \@subtitle
1763       \HCode{</h1>}%
1764       \newline
1765       \textbf{Editors: \@author}
1766       \HCode{</td><td valign="top">}%
1767       \@logo
1768       \HCode{</td></tr></tbody></table>}%
1769       \let\maintitle\@title
1770   }
1771 \else
1772   \renewcommand{\c@lamaketitle}{%
1773     \pagenumbering{alph}%
1774     \pagestyle{empty}%
1775     \begin{titlepage}%
1776       \let\footnotesize\small
1777       \let\footnoterule\relax

```

```

1778     \let\footnote\thanks
1779     \titlebody
1780     \par
1781     \@thanks
1782     \end{titlepage}%
1783     \setcounter{footnote}{0}%
1784     \let\maintitle\@title
1785     \c@lmtitleempty
1786   }
1787 \fi

```

\maintitlefont

```

1788 \renewcommand{\maintitlefont}{%
1789   \null\vskip15pt\relax\par
1790   \flushleft\Huge\bfseries\noindent}

```

\postmaintitle

```

1791 \renewcommand{\postmaintitle}{%
1792   \par\relax
1793 }

```

\mainvolumefont

```

1794 \newcommand{\mainvolumefont}{%
1795   \flushleft\noindent\LARGE\bfseries Volume
1796 }

```

\postmainvolume

```

1797 \newcommand{\postmainvolume}{%
1798   \IfTitleElement{subtitle}{:}\par\relax
1799 }

```

\mainissuefont

```

1800 \newcommand{\mainissuefont}{%
1801   \flushleft\noindent\LARGE\bfseries Issue
1802 }

```

\postmainissue

```

1803 \newcommand{\postmainissue}{%
1804   \par\relax
1805 }

```

\mainsubtlefont

```

1806 \newcommand{\mainsubtlefont}{%
1807   \flushleft\LARGE\bfseries\noindent}

```

\postmainsubtle

```

1808 \newcommand{\postmainsubtle}{\par}

```

```

\mainlogofont
1809 \newcommand{\mainlogofont}{%
1810 \vfill
1811 \begin{center}}

\postmainlogo
1812 \newcommand{\postmainlogo}{\end{center}\vfill\par}

\mainteamfont
1813 \newcommand{\mainteamfont}{\flushleft\bfseries\Large\noindent}

\postmainteam
1814 \newcommand{\postmainteam}{\par}

\mainauthorfont
1815 \renewcommand{\mainauthorfont}{%
1816 \flushleft\Large\itshape\doublespacing\noindent}

\postmainauthor
1817 \renewcommand{\postmainauthor}{%
1818 \par}

\productioneditorfont
1819 \newcommand{\mainproductioneditorfont}{%
1820 \flushleft\Large\noindent \@productioneditorname: \itshape}

\productioneditor
1821 \newcommand{\postmainproductioneditor}{\par}

\maindatefont
1822 \renewcommand{\maindatefont}{\par}

\postmaindate
1823 \renewcommand{\postmaindate}{\par}

signoff Editorial team listed at the end of a preface etc. The mandatory argument is the date, the
optional argument is the team title. Each editor should be separated with \Editor.

1824 \ifjmlrhtml
1825 \newenvironment{signoff}[2][The Editorial Team]{%
1826 \def\Editor##1{##1\par\vskip\baselineskip\noindent\ignorespaces}%
1827 \def\@editorialteam{##1}%
1828 \def\@signoffdate{##2}%
1829 \par\vskip\baselineskip\noindent
1830 \ifx\@signoffdate\@empty
1831 \else
1832 \emph{\@signoffdate}\nopagebreak\par
1833 \nopagebreak\vskip\baselineskip\noindent

```

```

1834 \fi
1835 \ifx\@editorialteam\@empty
1836 \else
1837 \@editorialteam:\nopagebreak\par\nopagebreak\vskip\baselineskip
1838 \fi
1839 \nopagebreak\noindent\ignorespaces
1840 }%
1841 {%
1842 }%
1843 \else
1844 \newenvironment{signoff}[2][The Editorial Team]{%
1845 \def\Editor##1{%
1846 \protected@write\@mainauxout{}\string\@prefaceeditor{##1}}%
1847 \begin{tabular}{@{}l@{}}%
1848 ##1%
1849 \end{tabular}%
1850 \par\vskip\baselineskip\noindent\ignorespaces
1851 }%
1852 \def\@editorialteam{#1}%
1853 \def\@signoffdate{#2}%
1854 \par\vskip\baselineskip\noindent
1855 \ifx\@signoffdate\@empty
1856 \else
1857 \emph{\@signoffdate}\par
1858 \vskip\baselineskip\noindent
1859 \fi
1860 \ifx\@editorialteam\@empty
1861 \else
1862 \@editorialteam:\nopagebreak\par\vskip\baselineskip
1863 \fi
1864 \nopagebreak\noindent\ignorespaces
1865 }%
1866 {%
1867 }
1868 \fi

```

`authorsignoff` An author can sign off at the end of a chapter (such as a foreword). Each author should be separated with `\Author`.

```

1869 \newenvironment{authorsignoff}{%
1870 \def\Author##1{\begin{tabular}{@{}p{\linewidth}@{}}%
1871 ##1%
1872 \end{tabular}}%
1873 \par\vskip\baselineskip\noindent\ignorespaces
1874 }%
1875 \par\vskip\baselineskip\noindent\ignorespaces
1876 }{%
1877 }

```

zeroextracounters Reset counters at the start of each imported article

```
1878 \renewcommand{\zeroextracounters}{%
1879   \@ifundefined{c@theorem}{}\setcounter{theorem}{0}}%
1880   \@ifundefined{c@algorithm}{}\setcounter{algorithm}{0}}%
1881   \@ifundefined{c@algocf}{}\setcounter{algocf}{0}}%
1882   \@ifundefined{c@example}{}\setcounter{example}{0}}%
1883   \@ifundefined{c@definition}{}\setcounter{definition}{0}}%
1884 }
```

\contentsname Redcfine title of the table of contents

```
1885 \renewcommand*{\contentsname}{Table of Contents}
```

\theHalgorithm

```
1886 \def\theHalgorithm{\theHchapter.\thealgorithm}
```

\theHsection

```
1887 \def\theHsection{\theHchapter.\thesection}
1888 \def\theHsubsection{\theHchapter.\thesubsection}
1889 \def\theHsubsubsection{\theHchapter.\thesubsubsection}
1890 \def\theHparagraph{\theHchapter.\theparagraph}
```

\theHsubfigure

```
1891 \def\theHsubfigure{\theHfigure.\arabic{subfigure}}
1892 \def\theHsubtable{\theHtable.\arabic{subtable}}
```

\theHfootnote

```
1893 \def\theHfootnote{\theHchapter.\alpha{footnote}}
```

\theHtable

```
1894 \def\theHtable{\theHchapter.\arabic{table}}
```

\theHfigure

```
1895 \def\theHfigure{\theHchapter.\arabic{figure}}
```

\theHalgocf

```
1896 \def\theHalgocf{\theHchapter.\thealgocf}
```

\mailto

```
1897 \renewcommand*{\mailto}[1]{%
1898   \href{mailto:#1}{\nolinkurl{#1}}%
1899 }
```

```
1900 \c@lhaschapterfalse
1901 \let\c@lthesec\thesection
```

Make sure the hyperlinks work

portchapterHRef

```
1902 \newcommand\doimportchapterHRef{%
1903   \edef\@currentHRef{chapter.\thechapter}%
1904 }
```

level@appendix Set the toc level for the main appendices

```
1905 \def\toclevel@appendix{-1}
```

hyperref and combine don't play nicely need to fudge the cross-referencing a bit.

\Xprefix

```
1906 \def\Xprefix{}
```

\Xref

```
1907 \DeclareRobustCommand\Xref{\@ifstar\@Xrefstar\T@Xref}%
```

\Xpageref

```
1908 \DeclareRobustCommand\Xpageref{%
1909   \@ifstar\@Xpagerefstar\T@Xpageref
1910 }%
```

Ref@StarSetXRef

```
1911 \def\HyRef@StarSetXRef#1{%
1912   \begingroup
1913     \Hy@safe@activetrue
1914     \edef\x{#1}%
1915     \@onelevel@sanitize\x
1916     \edef\x{\endgroup
1917       \noexpand\HyRef@@StarSetRef
1918         \expandafter\noexpand\csname r@\Xprefix\x\endcsname{x}%
1919     }%
1920   \x
1921 }
1922 % \end{macocode}
1923 %\end{macro}
1924 %
1925 %\begin{macro}{\@Xrefstar}
1926 % \begin{macrocode}
1927 \def\@Xrefstar#1{%
1928   \HyRef@StarSetXRef{#1}\@firstoffive
1929 }
```

\@Xpagerefstar

```
1930 \def\@Xpagerefstar#1{%
1931   \HyRef@StarSetXRef{#1}\@secondoffive
1932 }
```

`\T@Xref`

```
1933 \def\T@Xref#1{%
1934   \Hy@safe@activestru
1935   \expandafter\@setXref\csname r@Xprefix#1\endcsname\@firstoffive{#1}%
1936   \Hy@safe@activesfalse
1937 }%
```

`\T@Xpageref`

```
1938 \def\T@Xpageref#1{%
1939   \Hy@safe@activestru
1940   \expandafter\@setXref\csname r@Xprefix#1\endcsname\@secondoffive{#1}%
1941   \Hy@safe@activesfalse
1942 }%
```

`\Xlabel`

```
1943 \def\Xlabel#1{%
1944   \@bsphack
1945   \begingroup
1946     \@onelevel@sanitize\@currentlabelname
1947     \edef\@currentlabelname{%
1948       \expandafter\strip@period\@currentlabelname\relax.\relax\@@@
1949     }%
1950     \protected@write\@mainauxout{}{%
1951       \string\newlabel{Xprefix#1}{\@currentlabel}{\thepage}%
1952       {\@currentlabelname}{\@currentHref}{}}%
1953     }%
1954   \endgroup
1955   \@esphack
1956 }
1957 \let\ltx@label\Xlabel
```

`\@setXref`

```
1958 \def\@setXref#1#2#3{% csname, extract group, refname
1959   \ifx#1\relax
1960     \protect\G@refundefinedtrue
1961     \nfss@text{\reset@font\bfseries ??}%
1962     \@latex@warning{%
1963       Reference ‘#3’ on page \thepage \space undefined%
1964     }%
1965   \else
1966     \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
1967   \fi
1968 }
```

`\@secondoffive` Something's redefining `\@secondoffive` incorrectly at the start of the document when hyperref's draft mode is on. Need to fix it.

```
1969 \AtBeginDocument{%
1970   \renewcommand\@secondoffive[5]{#2}%
```

```

1971 \jmlrwritepdfinfo
1972 \let\jmlrwritepdfinfo\relax
1973 }

```

Need to write imported chapter label to main auxfile.

@setimportlabel

```

1974 \def\@setimportlabel{%
1975 \let\@mainauxout\@auxout
1976 \let\HRlabel\label
1977 }

1978 \AtBeginDocument{\@jmlrbegindoc}

```

\@jmlrbegindoc

```

1979 \newcommand*\@jmlrbegindoc{
1980 \@setimportlabel
1981 \gdef\@setimportlabel{\let\ref\Xref \let\pageref\Xpageref}%
1982 \let\ReadBookmarks\relax

```

Patch to work with auxhook if loaded

```

1983 \@ifundefined{@beginmainauxhook}{\@beginmainauxhook}%
1984 }

```

Imported papers modify \InputIfFileExists so save original definition.

```

1985 \let\@org@InputIfFileExists\InputIfFileExists

```

jmlrpapers

```

1986 \newenvironment{jmlrpapers}{%

1987 \def\@begindocumenthook{%
1988 \@jmlrbegindoc
1989 \let\bibcite\c@lbNAT\bibcite
1990 }
1991 \def\@enddocumenthook{%
1992 \@jmlrenddoc
1993 \let\bibcite\c@lbNAT@testdef
1994 }
1995 \begin{papers}[]

1996 \if@twocolumn
1997 \def\@jmlr@restore{\twocolumn}%
1998 \else
1999 \def\@jmlr@restore{\onecolumn}%
2000 \fi
2001 \jmlrarticlecommands
2002 \let\importpubpaper\@importpubpaper
2003 \let\importpaper\@importpaper
2004 \let\importarticle\@importarticle
2005 \let\label\Xlabel

```

```

2006 \let\ref\Xref
2007 \pagestyle{article}%
2008 }{%
2009 \@jmlr@restore
2010 \end{papers}
2011 }

```

dtomaincontents

```

2012 \newcommand{\addtomaincontents}[2]{%
2013 \protected@write\@mainauxout{\let\label\@gobble\let\index\@gobble
2014 \let\glossary\@gobble}\string\@writefile{#1}{#2}}%
2015 }

```

\@write@author

```

2016 \newcommand*\@write@author}[2]{%
2017 \def\@jmlr@authors@sep{ and }%
2018 \protected@write\@mainauxout{}{%
2019 \string\@new@articleauthor{#1}{#2}}%
2020 }%
2021 }

```

w@articleauthor

```

2022 \newcommand*\@new@articleauthor}[2]{%
2023 \expandafter\gdef\csname @jmlr@author@#1\endcsname{%
2024 \hyperref[#1jmlrstart]{#2}}%
2025 }

```

ite@jmlr@import The accompanying makejmlrbook Perl script scans the aux file for information. Any articles imported using \importpubpaper, \importpaper or \importarticle need to write the relevant information to the aux file.

```

2026 \newcommand*\@@write@jmlr@import}[3]{%
2027 \protected@write\@mainauxout{}{\string\@jmlr@import{#1}{#2}{#3}}%
2028 }

```

\@jmlr@import \LaTeX should ignore \@jmlr@import as it's only needed for makejmlrbook:

```

2029 \newcommand*\@jmlr@import}[3]{ }

```

@jmlr@apdimport As above but for files imported in the appendix.

```

2030 \newcommand*\@@write@jmlr@apdimport}[3]{%
2031 \protected@write\@mainauxout{}{\string\@jmlr@apdimport{#1}{#2}{#3}}%
2032 }

```

@jmlr@apdimport As above but for files imported in the appendix. \LaTeX should ignore \@jmlr@apdimport as it's only needed for makejmlrbookgui:

```

2033 \newcommand*\@jmlr@apdimport}[3]{ }

```

ite@jmlr@import Initialise to \@write@jmlr@import and switch to \@write@jmlr@apdimport in the appendices.

```

2034 \def\@write@jmlr@import{\@write@jmlr@import}

```

```

remaketitlehook  Redefine \jmlrpremaketitlehook
2035 \def\jmlrpremaketitlehook{%
2036   \cleardoublepage
2037   \phantomsection
2038   \let\@currentlabelname\@shorttitle

2039   \refstepcounter{chapter}%
2040 }%

\jmlrimporthook  Hook just before document is imported.
2041 \newcommand*\jmlrimporthook{}

\importpubpaper  Import a document that has already been published. Syntax: \importpubpaper [label]
                 {dir}{file}{pages} where dir is the directory in which the paper is located, file is the
                 name of the file and pages indicates the page range for the original version. The optional
                 argument is a label. This is used to prefix the labels and citations in the document so they
                 don't clash with other imported articles. If omitted, dir/file is used instead.
2042 \newcommand*\@importpubpaper[4][\@importdir\@importfile]{%
2043   \bgroup
2044   \def\@importdir{#2}/}%
2045   \def\@importfile{#3}%
2046   \@writejmlr@import{#1}{#2}{#3}%
2047   \def\@extra@b@citeb{#1}%
2048   \def\@extra@b@info{#1}%
2049   \jmlrpages{#4}%
2050   \graphicspath{\@importdir}%
2051   \def\jmlrmaketitlehook{%

2052     \label{}}%
2053     \def\titlebreak{ }%
2054     \addtomaincontents{toc}%

2055     {%
2056       \protect\contentsline{papertitle}{\@title}{\thepage}%
2057     {page.\thepage}}%
2058     \pdfbookmark{\@shorttitle}{chapter.\theHchapter}%
2059     \def\@jmlr@authors@sep{ \& }%

2060     \tocchapterpubauthor{\@jmlr@authors}%
2061     {%
2062       \@jmlr@abbrv@proceedings
2063       \ifx\@jmlrvolume\@empty
2064         \ifx\@jmlrpages\@empty\else\space\fi
2065       \else
2066         \space\@jmlrvolume
2067         \ifx\@jmlrissue\@empty
2068         \else
2069           (\@jmlrissue)%
2070         \fi

```

```

2071         \ifx\@jmlrpages\@empty\else:\fi
2072     \fi
2073     \ifx\@jmlrpages\@empty
2074     \else
2075         \@jmlrpages
2076         \ifx\@jmlryear\@empty\else,\fi
2077     \fi
2078     \space\@jmlryear
2079 }%

2080     \@writeauthor{#1}{\@jmlr@authors}%
2081 }%
2082 \def\InputIfFileExists##1##2##3{%
2083     \IfFileExists{##1}{%
2084         \@org@InputIfFileExists{##1}{##2}{##3}%
2085     }%
2086     {%
2087         \@org@InputIfFileExists{\@importdir##1}{##2}{##3}%
2088     }%
2089 }%
2090 \def\Xprefix{#1}%
2091 \jmlrimporthook
2092 \import{\@importdir\@importfile}%
2093 \def\Xprefix{}%
2094 \egroup
2095 \gdef\@shortauthor{}%
2096 \gdef\@shorttitle{}%
2097 \gdef\@firstauthor{}%
2098 \gdef\@jmlr@authors{\@jmlrauthors}%
2099 \gdef\@jmlrauthors{}%
2100 \gdef\@firstsurname{}%
2101 }
2102 \newcommand{\importpubpaper}[4][\@importdir\@importfile]{%
2103     \ClassError{jmlrbook}{\string\importpubpaper\space
2104 not permitted outside ‘jmlrpapers’ environment}{}%
2105 }

```

`\importpaper` Like `\importpubpaper` but sets the pages to the page-range for this book.

```

2106 \newcommand{\@importpaper}[3][\@importdir\@importfile]{%
2107     \bgroup
2108     \def\@importdir{#2/}%
2109     \def\@importfile{#3}%
2110     \@writejmlr@import{#1}{#2}{#3}%
2111     \def\@extra@b@citeb{#1}%
2112     \def\@extra@b@info{#1}%
2113     \jmlrpages{\protect\@articlepagesref}%
2114     \graphicspath{\@importdir}%
2115     \def\jmlrmaketitlehook{%
2116         \label{}%

```

```

2117     \def\titlebreak{ }%
2118     \addtomaincontents{toc}%

2119     {%
2120         \protect\contentsline{papertitle}{\@title}{\thepage}%
2121     {page.\thepage}}%
2122     \pdfbookmark{\@shorttitle}{chapter.\theHchapter}%
2123     \def\@jmlr@authors@sep{ \& }%

2124     \tocchapterpubauthor{\@jmlr@authors}%
2125     {%
2126         \@jmlrabbrvproceedings
2127         \ifx\@jmlrvolume\@empty
2128             \space
2129         \else
2130             \space\@jmlrvolume
2131             \ifx\@jmlrissue\@empty
2132                 \else
2133                     (\@jmlrissue)%
2134             \fi
2135             :%
2136         \fi
2137         \protect\articlepagesref{#1}%
2138         \ifx\@jmlryear\@empty\else,\fi
2139         \space\@jmlryear
2140     }%

2141     \@writeauthor{#1}{\@jmlr@authors}%
2142 }%
2143 \def\InputIfFileExists##1##2##3{%
2144     \IfFileExists{##1}{%
2145         \@org@InputIfFileExists{##1}{##2}{##3}%
2146     }%
2147     {%
2148         \@org@InputIfFileExists{\@importdir##1}{##2}{##3}%
2149     }%
2150 }%
2151 \def\Xprefix{#1}%

```

Disable \jmlrvolume, \jmlryear, \jmlrworkshop etc (since the imported papers belong to the same volume as the book—use \importpubpaper for papers pre-published in another volume).

```

2152     \let\jmlrvolume\@gobble
2153     \let\jmlryear\@gobble
2154     \let\jmlrworkshop\@gobble
2155     \let\jmlrissue\@gobble
2156     \let\jmlrpages\@gobble
2157     \jmlrimporthook
2158     \import{\@importdir\@importfile}%

```

```

2159 \def\Xprefix{}%
2160 \egroup
2161 \gdef\@shortauthor{}%
2162 \gdef\@shorttitle{}%
2163 \gdef\@firstauthor{}%
2164 \gdef\@jmlr@authors{\@jmlrauthors}%
2165 \gdef\@jmlrauthors{}%
2166 \gdef\@firstsurname{}%
2167 }
2168
2169 \newcommand{\importpaper}[3][[]]{%
2170 \ClassError{jmlrbook}{\string\importpaper\space
2171 not permitted outside ‘jmlrpapers’ environment}{}%
2172 }

```

`\importarticle` Import a document that hasn't been published. Syntax: `\importarticle[<label>]{<dir>}{<file>}` where *<dir>* is the directory in which the paper is located and *<file>* is the name of the file. The optional argument is a label. This is used to prefix the labels and citations in the document so they don't clash with other imported articles. If omitted, *<file>* is used instead.

```

2173 \newcommand{\@importarticle}[3][\@importdir\@importfile]{%
2174 \bgroup
2175 \def\@importdir{#2/}%
2176 \def\@importfile{#3}%
2177 \@writejmlr@import{#1}{#2}{#3}%
2178 \def\@extra@b@citeb{#1}%
2179 \def\@extra@b@info{#1}%
2180 \def\jmlrmaketitlehook{%
2181 \def\titlebreak{ }}%
2182 \addtomaincontents{toc}%

2183 {%
2184 \protect\contentsline{papertitle}{\@title}{\thepage}%
2185 {page.\thepage}}%

2186 \label{}%
2187 \pdfbookmark{\@shorttitle}{chapter.\theHchapter}%
2188 \def\@jmlr@authors@sep{ \& }%

2189 \tocchapterauthor{\@jmlr@authors}%
2190 \@writeauthor{#1}{\@jmlr@authors}%
2191 \jmlrpages{}%
2192 \jmlrvolume{}%
2193 \jmlryear{}%
2194 \jmlrsubmitted{}%
2195 \jmlrpublished{}%
2196 \jmlrproceedings{}{}%
2197 }%
2198 \graphicspath{\@importdir}%
2199 \def\InputIfFileExists##1##2##3{%

```



```

2200 \IfFileExists{##1}{%
2201 \@org@InputIfFileExists{##1}{##2}{##3}%
2202 }%
2203 {%
2204 \@org@InputIfFileExists{\@importdir##1}{##2}{##3}%
2205 }%
2206 }%
2207 \def\Xprefix{#1}%
2208 \jmlrimporthook

2209 \let\ps@jmlrtps\ps@articlet
2210 \import{\@importdir\@importfile}%
2211 \def\Xprefix{}%
2212 \egroup
2213 \gdef\@shortauthor{}%
2214 \gdef\@shorttitle{}%
2215 \gdef\@firstauthor{}%
2216 \gdef\@jmlr@authors{\@jmlrauthors}%
2217 \gdef\@jmlrauthors{}%
2218 \gdef\@firstsurname{}%
2219 }
2220 \newcommand{\importarticle}[3][]{%
2221 \ClassError{jmlrbook}{\string\importarticle\space
2222 not permitted outside ‘jmlrpapers’ environment}{}%
2223 }

```

`\addtocpart` Add a part to the TOC without printing anything in the text (but does a `\cleardoublepage`).

```

2224 \newcommand{\addtocpart}[1]{%
2225 \cleardoublepage
2226 \refstepcounter{tocpart}%
2227 \addtocontents{toc}{\protect\tocpart{#1}}%
2228 \pdfbookmark[-1]{#1}{part.\thetocpart}%
2229 }
2230 \newcounter{tocpart}

```

`\tocpart` Define the appearance of a part in the TOC.

```

2231 \newcommand{\tocpart}[1]{%
2232 \addpenalty{-\@highpenalty}%
2233 \vskip 1.0ex \@plus\p@
2234 \setlength\@tempdima{2.25em}%
2235 \begingroup
2236 \parindent \z@ \rightskip \@pnumwidth
2237 \parfillskip -\@pnumwidth
2238 \leavevmode \large\bfseries
2239 \advance\leftskip\@tempdima
2240 \hskip -\leftskip
2241 #1\nobreak\hfil \nobreak\hb@xt@\@pnumwidth{\hss \null}\par
2242 \penalty\@highpenalty
2243 \endgroup
2244 }

```

Set up the layout of the chapter headings

```
2245 \setlength{\prechapterskip}{3em}
2246 \setlength{\postchapterskip}{20pt}
```

ternumberformat

```
2247 \renewcommand{\chapternumberformat}[1]{%
2248 \Large\bfseries \@chapapp\space#1\par
2249 }
```

ptertitleformat

```
2250 \renewcommand{\chaptertitleformat}[1]{%
2251 \Large\bfseries #1}
```

\chapterformat

```
2252 \renewcommand*{\chapterformat}{%
2253 \raggedright
2254 }
```

Set up the format of a part in the book (not a part in an article).

\preparthook

```
2255 \renewcommand{\preparthook}{\cleardoublepage\null\vfil}
```

artnumberformat

```
2256 \renewcommand{\partnumberformat}[1]{%
2257 \Huge\bfseries \@partapp\nobreakspace#1\par\nobreak
2258 \vskip 20\p@
2259 }
```

\postparthook

```
2260 \def\postparthook{%
2261 \thispagestyle{empty}%
2262 \vfil\newpage
2263 \null
2264 \thispagestyle{empty}%
2265 \newpage
2266 }
```

\@curparthead The heading of the current part

```
2267 \newcommand{\@curparthead}{}
```

parttitleformat

```
2268 \renewcommand{\parttitleformat}[1]{#1%
2269 \gdef\@curparthead{\@partapp\space \thepart. #1}%
2270 \@mkboth{\@curparthead}{\@curparthead}%
2271 }
```

\firstpageno Change \firstpageno to do nothing as the page number will be determined by the book.

```
2272 \renewcommand{\firstpageno}[1]{}
```

tocchapterauthor Add the author of the current chapter to the table of contents.

```
2273 \newcommand{\tocchapterauthor}[1]{%
2274   \addtomaincontents{toc}{\protect\contentsline{chapterauthor}{%
2275     #1}{-}{-}}%
2276 }
```

chapterpubauthor Add the author of an imported prepublished paper to the table of contents. The first argument is the author (or list of authors). The second argument is the reference to the published article.

```
2277 \newcommand{\tocchapterpubauthor}[2]{%
2278   \addtomaincontents{toc}{\protect\contentsline{chapterauthor}{%
2279     #1; #2.}{-}{-}}%
2280 }
```

Set up the formatting in the TOC

```
2281 \renewcommand*\@pnumwidth{2em}
```

\l@part Format for book parts

```
2282 \renewcommand*\l@part[2]{%
2283   \ifnum \c@tocdepth >\m@ne
2284     \addpenalty{-\@highpenalty}%
2285     \vskip 1.0em \@plus\p@
2286     %\setlength\@tempdima{5em}%
2287     \settowidth\@tempdima{\large\bfseries \@partapp\space MM}%
2288     \vbox{%
2289       \pagerule
2290       \begingroup
2291         \parindent \z@ \rightskip \@pnumwidth
2292         \parfillskip -\@pnumwidth
2293         \leavevmode \large\bfseries
2294         \advance\leftskip\@tempdima
2295         \hskip -\leftskip
2296         \renewcommand* \numberline[1]{\hb@xt@ \@tempdima
2297           {\@partapp\space ##1\hfil }}%
2298         #1\nobreak\hfil \nobreak\hb@xt@\@pnumwidth{\hss
2299           \normalfont\normalsize #2}\par
2300         \penalty\@highpenalty
2301       \endgroup
2302       \pagerule
2303     }%
2304   \fi}
```

\l@chapter

```
2305 \renewcommand{\l@chapter}[2]{%
2306   \ifnum\c@tocdepth>\m@ne
2307     \addpenalty{-\@highpenalty}%
2308     \vskip 1.0em \@plus \p@
2309     \setlength\@tempdima{2em}%

```

```

2310 \begingroup
2311   \parindent \z@
2312   \rightskip \@pnumwidth
2313   \parfillskip -\@pnumwidth
2314   \leavevmode \large \bfseries
2315   \advance \leftskip \@tempdima
2316   \hskip -\leftskip
2317   \renewcommand*\numberline[1]{\hb@xt@ \@tempdima
2318     {##1\hfil }}%
2319   #1\nobreak \hfil \nobreak \hb@xt@ \@pnumwidth {\hss
2320     \normalfont\normalsize #2}\par
2321   \penalty \@highpenalty
2322 \endgroup
2323 \fi
2324 }

```

\l@papertitle

```

2325 \newcommand*\l@papertitle[2]{%
2326   \ifnum \c@tocdepth >\m@ne
2327     \addpenalty{-\@highpenalty}%
2328     \vskip 1.0em \@plus\p@
2329     \setlength\@tempdima{3em}%
2330     \begingroup
2331       \leavevmode \raggedright\itshape
2332       #1\nobreak\hfill \nobreak\hb@xt@\@pnumwidth{\hss
2333         \normalfont#2}%
2334       \par
2335       \penalty\@highpenalty
2336     \endgroup
2337   \fi
2338 }

```

\l@chapterauthor

```

2339 \newcommand*\l@chapterauthor[2]{%
2340   \ifnum \c@tocdepth >\m@ne

2341   \begingroup
2342     \parindent \z@
2343     \rightskip \@pnumwidth
2344     \parfillskip -\@pnumwidth
2345     \leavevmode \raggedright
2346     \parbox{\linewidth-\@pnumwidth}{\raggedright#1\par}%
2347     \par
2348   \endgroup
2349 \fi}

```

\l@section

```

2350 \renewcommand*\l@section[2]{%
2351   \ifnum \c@tocdepth >\m@ne

```

```

2352 \addpenalty{-\@highpenalty}%
2353 \vskip 1.0em \@plus\p@
2354 \setlength\@tempdima{3em}%
2355 \begingroup
2356 \parindent \z@ \rightskip \@pnumwidth
2357 \parfillskip -\@pnumwidth
2358 \leavevmode \normalsize\mdseries
2359 \advance\leftskip\@tempdima
2360 \hskip -\leftskip
2361 #1\nobreak\hfil \nobreak\hb@xt@\@pnumwidth{\hss #2}\par
2362 \penalty\@highpenalty
2363 \endgroup
2364 \fi}

```

`\l@section`

```

2365 \renewcommand*\l@section[2]{%
2366 \ifnum \c@tocdepth >\m@ne
2367 \addpenalty{-\@highpenalty}%
2368 \vskip 1.0em \@plus\p@
2369 \setlength\@tempdima{3.5em}%
2370 \begingroup
2371 \parindent \z@ \rightskip \@pnumwidth
2372 \parfillskip -\@pnumwidth
2373 \leavevmode \normalsize\mdseries
2374 \advance\leftskip\@tempdima
2375 \hskip -\leftskip
2376 #1\nobreak\hfil \nobreak\hb@xt@\@pnumwidth{\hss #2}\par
2377 \penalty\@highpenalty
2378 \endgroup
2379 \fi}

```

`\chaptermark`

```

2380 \renewcommand*\chaptermark[1]{%
2381 \@mkboth{\@curparhead}{\protect\thechapter. #1}%
2382 }

```

Set up page styles

`\firstpagehead`

```

2383 \newcommand{\firstpagehead}{}

```

`\firstpagefoot`

```

2384 \newcommand{\firstpagefoot}{%
2385 \@reprint\hfill\thepage
2386 }

```

`\headfont` Set the header font

```

2387 \newcommand*\headfont{\reset@font\small\scshape}%

```

```

\footfont Set the footer font
2388 \newcommand*{\footfont}{\reset@font\small\itshape}%

\ps@chplain Page style for first page of a chapter
2389 \newcommand*{\ps@chplain}{%
2390 \let\@mkboth\@gobbletwo
2391 \renewcommand*{\@oddhead}{\headfont\firstpagehead}%
2392 \renewcommand*{\@evenhead}{}%
2393 \renewcommand*{\@oddfoot}{\footfont\firstpagefoot}%
2394 \renewcommand*{\@evenfoot}{\footfont\thepage\hfill
2395 }%
2396 }
2397 \let\ps@plain\ps@chplain

\ps@article Page style for the imported articles.
2398 \newcommand*{\ps@article}{%
2399 \let\@mkboth\@gobbletwo
2400 \renewcommand*{\@oddhead}{\headfont\hfill\@shorttitle}%
2401 \renewcommand*{\@evenhead}{\headfont\@shortauthor\hfill}%
2402 \renewcommand*{\@oddfoot}{\footfont\hfill\thepage}
2403 \renewcommand*{\@evenfoot}{\footfont\thepage\hfill}
2404 }

\ps@articlet Title page style for imported articles (imported using \importarticle)
2405 \newcommand*{\ps@articlet}{%
2406 \let\@mkboth\@gobbletwo
2407 \renewcommand*{\@oddhead}{}%
2408 \renewcommand*{\@evenhead}{}%
2409 \renewcommand*{\@oddfoot}{\footfont\hfill\thepage}
2410 \renewcommand*{\@evenfoot}{\footfont\thepage\hfill}
2411 }

\ps@jmlrbook Page style for book
2412 \newcommand*{\ps@jmlrbook}{%
2413 \renewcommand*{\@oddfoot}{\footfont\hfill\thepage}
2414 \renewcommand*{\@evenfoot}{\footfont\thepage\hfill}
2415 \def\@evenhead{\headfont\leftmark\hfill}%
2416 \def\@oddhead{\hfill\headfont\rightmark}%
2417 \let\@mkboth\markboth
2418 \renewcommand*{\sectionmark}[1]{%
2419 }

\markleft Provide a command to set just the left header mark.
2420 \newcommand*{\markleft}[1]{%
2421 \begingroup
2422 \let\label\relax
2423 \let\index\relax
2424 \let\glossary\relax

```

```

2425 \expandafter\@markleft\@themark{#1}%
2426 \@temptokena
2427 \expandafter{\@themark}%
2428 \mark{\the\@temptokena}
2429 \endgroup
2430 \if@nobreak
2431 \ifvmode
2432 \nobreak
2433 \fi
2434 \fi
2435 }
2436 \newcommand*{\@markleft}[3]{%
2437 \@temptokena{#2}%
2438 \unrestored@protected@xdef\@themark{#{3}{\the\@temptokena}}
2439 }

```

morefrontmatter

```

2440 \renewcommand*{\morefrontmatter}{\pagestyle{jmlrbook}}%
2441 \def\chaptermark##1{%
2442 \mkboth{##1\hfill}{\hfill##1}}%
2443 }

```

\moremainmatter

```

2444 \renewcommand*{\moremainmatter}{\pagestyle{jmlrbook}}%
2445 \def\chaptermark##1{%
2446 \mkboth{\@curparthead}{\protect\thechapter. ##1}%
2447 }%
2448 }

```

\bibsection Set the bibliography headings in the articles

```

2449 \renewcommand*\bibsection{\section*{\refname}}

```

Set up the book commands:

```

2450 \jmlrbookcommands

```

In the event that authors have used different versions of algorithm2e, define old command names.

```

2451 \providecommand*\SetNoLine{\SetAlgoNoLine}
2452 \providecommand*\SetVline{\SetAlgoVlined}
2453 \providecommand*\Setvlineskip{\SetVlineSkip}
2454 \providecommand*\SetLine{\SetAlgoLined}
2455 \providecommand*\dontprintsemicolon{\DontPrintSemicolon}
2456 \providecommand*\printsemicolon{\PrintSemicolon}
2457 \providecommand*\incmargin{\IncMargin}
2458 \providecommand*\decmargin[1]{\DecMargin{-#1}}
2459 \providecommand*\setnlskip{\SetNlSkip}
2460 \providecommand*\Setnlskip{\SetNlSkip}
2461 \providecommand*\setalcapskip{\SetAlCapSkip}
2462 \providecommand*\setalcaphskip{\SetAlCapHSkip}

```

```
2463 \providecommand*\nlSty{\NlSty}
2464 \providecommand*\Setnlsty{\SetNlSty}
2465 \providecommand*\linesnumbered{\LinesNumbered}
2466 \providecommand*\linesnotnumbered{\LinesNotNumbered}
2467 \providecommand*\linesnumberedhidden{\LinesNumberedHidden}
2468 \providecommand*\showln{\ShowLn}
2469 \providecommand*\showlnlabel{\ShowLnLabel}
2470 \providecommand*\nocaptionofalgo{\NoCaptionOfAlgo}
2471 \providecommand*\restorecaptionofalgo{\RestoreCaptionOfAlgo}
2472 \providecommand*\restylealgo{\RestyleAlgo}
2473 \providecommand*\Titleofalgo{\TitleOfAlgo}
```


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