

# L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> Classes for the Journal of Machine Learning Research

Nicola L. C. Talbot

<http://www.dickimaw-books.com/>

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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.

The `jmlrbook` class is for combining JMLR articles into a book. This 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.<sup>1</sup> 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`

`\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 accompanying HTML files for the JMLR proceedings page. 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](#).

<sup>1</sup>Currently `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`. For those who still want to use it, `makejmlrbook` is described in Section 3.6.

## 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 (at least JRE 7),  $\text{T}_{\text{E}}\text{X}$ ,  $\text{T}_{\text{E}}\text{X}4\text{HT}$  and Ghostscript. The `makejmlrbook` script requires Perl,  $\text{T}_{\text{E}}\text{X}$  and  $\text{T}_{\text{E}}\text{X}4\text{ht}$ .

## 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).

**wcp** The article is for JMLR Workshop and Conference Proceedings.

**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 fore-name 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` documentation<sup>1</sup> 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

---

<sup>1</sup><http://ctan.org/pkg/natbib>

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.}
```

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  $\text{\TeX}$  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 subdirectory `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*}
\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 documentation<sup>2</sup> 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

---

<sup>2</sup><http://ctan.org/pkg/algorithm2e>

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{\newtheorem{<name>}[<counter>]{<title>}[<outer counter>]}
```

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

```
\newtheorem*{\newtheorem*{<name>}{<title>}}
```

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.

<code>\subtabref</code>	<code>\subtabref{&lt;label list&gt;}</code>	Used to refer to sub-tables without the main table number, e.g. (a) or (b).
<code>\figureref</code>	<code>\figureref{&lt;label list&gt;}</code>	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).
<code>\subfigref</code>	<code>\subfigref{&lt;label list&gt;}</code>	Used to refer to sub-figures without the main figure number, e.g. (a) or (b).
<code>\algorithmref</code>	<code>\algorithmref{&lt;label list&gt;}</code>	Used to refer to an algorithm or multiple algorithms.
<code>\theoremref</code>	<code>\theoremref{&lt;label list&gt;}</code>	Used to refer to a theorem or multiple theorems.
<code>\lemmaref</code>	<code>\lemmaref{&lt;label list&gt;}</code>	Used to refer to a lemma or multiple lemmas.
<code>\remarkref</code>	<code>\remarkref{&lt;label list&gt;}</code>	Used to refer to a remark or multiple remarks.
<code>\corollaryref</code>	<code>\corollaryref{&lt;label list&gt;}</code>	Used to refer to a corollary or multiple corollaries.
<code>\definitionref</code>	<code>\definitionref{&lt;label list&gt;}</code>	Used to refer to a definition or multiple definitions.
<code>\conjectureref</code>	<code>\conjectureref{&lt;label list&gt;}</code>	Used to refer to a conjecture or multiple conjectures.
<code>\axiomref</code>	<code>\axiomref{&lt;label list&gt;}</code>	Used to refer to an axiom or multiple axioms.

`\exempleref`

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

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` documentation<sup>3</sup> for further details.

`\set`

```
\set{<text>}
```

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:

```
\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*}
```

---

<sup>3</sup><http://ctan.org/pkg/amsmath>

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{<text>}` or you can use `\intertext{<text>}` 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{<name>}
```

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>}{<name>}
```

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*`).

## 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).

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>	$\underline{\lim}$		
		<code>\varliminf</code>	$\underline{\lim}$	<code>\varprojlim</code>	$\overleftarrow{\lim}$		

`\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` documentation<sup>4</sup>).

## 2.12 Where To Go For Help

If you have a general  $\text{\LaTeX}$  query, the first place to go to is the UK TUG FAQ<sup>5</sup>.

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

There are also forums, mailing lists and newsgroups. For example, the  $\text{\LaTeX}$  Community (<http://www.latex-community.org/>), the `texhax` mailing list (<http://tug.org/mailman/listinfo/texhax>) and `comp.text.tex`

<sup>4</sup><http://ctan.org/pkg/xcolor>

<sup>5</sup><http://www.tex.ac.uk/faq>

(archives available at <http://groups.google.com/group/comp.text.tex/>). The best place for queries about the jmlr class is the “Document Classes” section of the  $\LaTeX$  Community Forum, as there’s a high chance I’ll see it there and help if I can. (Emails directly to me tend to get lost in my overcrowded inbox.)

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.

## 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 and create associated HTML files. 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).

**wcp** The imported pre-published articles were published in the JMLR Workshop and Conference Proceedings.

If the book has a mixture of JMLR and JMLR WCP articles, you can switch between them using

`\jmlrwcp`

```
\jmlrwcp
```

and

`\jmlrnowcp`

```
\jmlrnowcp
```

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` `\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, is used by `makejmlrbookgui` to make the logo a link to `<url>` on the index HTML page, otherwise it's ignored.

`\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 JMLR guidelines, should be changed to the surname of the first author (editor) followed by the final two digits of the year. See the JMLR website for further details of the guidelines.

signoff

```
\begin{signoff}[\langle team name \rangle]{\langle date \rangle}
\langle editor list \rangle
\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{\langle details \rangle}
```

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 [\langle short title \rangle]{\langle title \rangle}
```

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{\langle title \rangle}
```

This adds `\langle title \rangle` 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`    `\section [<short title>] {<title>}`

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

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

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

`\subparagraph`    `\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`    `\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`    `\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, issue<sup>1</sup>, 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}{\mainvolumefont}{\postmainvolume}
```

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

`\IfTitleElement`

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

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}{\mainlogofont}{\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

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

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.<sup>2</sup> 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. Its manual also has a [troubleshoot-](#)

---

<sup>2</sup>and may also cause a problem for the editor's text editor.



ing section.

## 3.6 Creating the Book Using `makejmlrbook`

The `makejmlrbook` script has been superseded by the `makejmlrbookgui` application, which can be downloaded from <http://www.dickimaw-books.com/apps/makejmlrbookgui/>.

The `makejmlrbook` Perl script is designed to make it easier to produce the print and online versions of the book, as well as producing an HTML index of all the imported articles with links to the abstracts and PDFs of individual articles. Note that for it to work properly, the articles must be imported using `\importarticle`, `\importpaper` or `\importpubpaper`, and the imported articles must use the `jmlr` class. Note that I have only tested `makejmlrbook` on Linux.

On UNIX style systems, the script can be invoked from a terminal using:

```
makejmlrbook [options] filename
```

If that doesn't work, or you aren't using a UNIX style operating system, the script can be invoked from a terminal or command prompt using:

```
perl makejmlrbook [options] filename
```

The mandatory argument *filename* is the name of the master  $\text{\TeX}$  file containing the book. It must use the `jmlrbook` class. You may omit the `.tex` extension. For example, if the file is called `proceedings.tex`, you can call `makejmlrbook` as follows:

```
perl makejmlrbook proceedings
```

This will create the files `proceedings-print.pdf` (the print version) and `proceedings-online.pdf` (the online version). It will also create a directory (folder) called `html` in which the HTML files and individual article PDFs will be placed.

The options to `makejmlrbook` are as follows:

- `--online` Generate the color on-line version (default).
- `--noonline` Don't generate the color on-line version.
- `--print` Generate the grayscale print version (default).
- `--noprint` Don't generate the grayscale print version.

- html Generate the HTML files and the individual article PDFs (default).  
*Caveat: TeX4HT no longer works with the jmlr class.*
- nohtml Don't generate the HTML files and the individual article PDFs.
- logourl *<url>* Make the logo on the HTML index page link to *<url>*.
- extractpreface Extract the preface as a standalone document with links in the HTML index. (Only has an effect if combined with --html option.) This will only work if the preface has been put inside the preface environment with the signoff environment that each editor with \Editor.
- noextractpreface Don't try extracting the preface. (Default.)
- batchtex Run TeX in batch mode.
- nobatchtex Don't run TeX in batch mode (default).
- quieter Reduce chatter to STDOUT (doesn't eliminate all messages). This also runs TeX in batch mode.
- noquieter Don't reduce messages to STDOUT (default).
- version Display the version number and exit.
- help List all available options.

There are also some more advanced options, but these haven't been fully tested:

- latexapp *<name>* Application used to call  $\LaTeX$ . Defaults to "pdflatex".
- latexopt *<string>* Options to pass to  $\LaTeX$ .
- format *<string>* Output format (defaults to "pdf"). This may need to be changed if you change the  $\LaTeX$  application.
- bibtexapp *<name>* Application use to process the bibliography. Defaults to "bibtex".
- bibtexopt *<string>* Options to pass to BibTeX.

## 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 `jmlrbook` which uses both `combine` and `hyperref`.

Declare class and required TeX format:

```
1 \NeedsTeXFormat{LaTeX2e}
2 \ProvidesClass{jmlr}[2014/10/15 v1.20 (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}}
```

```

\iftablecaptiontop 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:
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}

jmlrabbrvproceedings The abbreviated name of the proceedings.
40 \newcommand*\@jmlrabbrvproceedings{JMLR}

\jmlrproceedings Sets the title and abbreviation of the proceedings
41 \newcommand*\jmlrproceedings[2]{%
42   \renewcommand*\@jmlrabbrvproceedings{#1}%
43   \renewcommand*\@jmlrproceedings{#2}%
44 }

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

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

```

This isn't an article for a workshop:

```
51 \DeclareOptionX{nowcp}{\jmlrnowcp}
```

This is an article for a workshop

```
52 \DeclareOptionX{wcp}{\jmlrwcp}
```

The default paper size is letter, but provide 7 × 10in alternative:

```
53 \newif\ifviiXx
```

```
54 \viiXxfalse
```

```
55 \DeclareOptionX{7x10}{\viiXxtrue}
```

```
56 \DeclareOptionX{letterpaper}{\PassOptionsToPackage{letterpaper}{typearea}}
```

Pass all remaining options to article class:

```
57 \DeclareOptionX*{\PassOptionsToClass{\CurrentOption}{article}}
```

Execute required options:

```
58 \ExecuteOptions{twoside,letterpaper}
```

Process options:

```
59 \ProcessOptionsX
```

Load article class.

```
60 \LoadClass[\pt@size]{article}
```

Can't use geometry package because it doesn't play nicely with the combine class.

```
61 \ifviiXx
```

```
62 \setlength{\paperwidth}{7in}
```

```
63 \setlength{\paperheight}{10in}
```

```
64 \setlength{\textwidth}{5.25in}
```

```
65 \setlength{\textheight}{8.2in}
```

```
66 \setlength{\topmargin}{0.4in}
```

```
67 \setlength{\headheight}{0.2in}
```

```
68 \setlength{\headsep}{0.2in}
```

```
69 \setlength{\hoffset}{-1in}
```

```
70 \setlength{\voffset}{-1in}
```

```
71 \setlength{\evensidemargin}{0.75in}
```

```
72 \setlength{\oddsidemargin}{1.0in}
```

```
73 \else
```

```
74 \setlength{\oddsidemargin}{0.25in}
```

```
75 \setlength{\evensidemargin}{0.25in}
```

```
76 \setlength{\marginparwidth}{0.07 true in}
```

```
77 \setlength{\topmargin}{-0.5in}
```

```
78 \addtolength{\headsep}{0.25in}
```

```
79 \setlength{\textheight}{8.5 true in}
```

```
80 \setlength{\textwidth}{6.0 true in}
```

```
81 \fi
```

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

```
82 \AtEndDocument{\@jmlrenddoc}
```

Required packages:

```
83 \RequirePackage{amsmath}
84 \RequirePackage{amssymb}
85 \RequirePackage{natbib}
86 \RequirePackage{graphicx}
87 \RequirePackage{url}
88 \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.)

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

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

```
90 \jmlrprehyperref
```

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

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

Load hyperref:

```
92 \RequirePackage{hyperref}
93 \RequirePackage{nameref}
```

```
94 % Do stuff that has to come immediately after \sty{hyperref} and
```

```
95 % \sty{nameref} are loaded:
```

```
96 %\changes{1.16}{2012/05/15}{added \cs{@post@hyperref}}
```

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

Set up hyperref options:

```
98 \hypersetup{colorlinks,
99             linkcolor=blue,
100            citecolor=blue,
101            urlcolor=magenta,
102            linktocpage,
103            plainpages=false}
```

```
104 \ifgrayscale
```

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

```
105 \hypersetup{draft}
```

```
106 \fi
```

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

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

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

widows/orphans

```
109 \widowpenalty=10000\relax
```

```
110 \clubpenalty=10000\relax
```

Set two-sided format

```
111 \@twosidetrue
```

Put marginal notes on the outside of the page

```
112 \mparswitchtrue
```

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

```
113 \bibliographystyle{plainnat}
```

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

### 4.1.1 Sections

`\section`

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

```
116   {-0.24in \@plus -1ex \@minus -.2ex}%
```

```
117   {0.10in \@plus .2ex}%
```

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

```
119 }
```

`\subsection`

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

```
121   {-0.20in \@plus -1ex \@minus -.2ex}%
```

```
122   {0.08in \@plus .2ex}%
```

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

```
124 }
```

`\subsubsection`

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

```
126   {-0.18in \@plus -1ex \@minus -.2ex}%
```

```
127   {0.08in \@plus .2ex}%
```

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

```
129 }
```

`\paragraph`

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

```
131   {1.5ex plus 0.5ex minus .2ex}%
```

```
132   {-1em}%
```

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

```
134 }
```

`\subparagraph`

```
135 \renewcommand\subparagraph{\@startsection{subparagraph}{5}{\z@}%
```

```
136   {1.5ex plus 0.5ex minus .2ex}%
```

```
137   {-1em}%
```

```
138   {\normalfont\normalsize\rmfamily\bfseries\itshape}}
```

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

```
139 \renewcommand*\@secntformat[1]{%
```

```
140   \csname pre#1num\endcsname
```

```
141   \csname the#1\endcsname.\enskip
```

```
142 }
```

### 4.1.2 Footnotes

`\@makefn`text    Redefine `\@makefn`text 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.)

```
143 \renewcommand*{\@makefn}{[1]{%
144   \@setpar
145   {%
146     \@@par
147     \@tempdima\hsize
148     \advance \@tempdima -15pt\relax
149     \parshape \@ne 15pt \@tempdima
150   }%
151   \par
152   \parindent 2em\noindent
153   \hbox to \z@ {\hss {\@thefnmark }\footnoteseptext\hfil }#1%
154 }
```

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

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

`\thanks`

```
156 \renewcommand*{\thanks}[1]{%
157   \footnotemark
158   \protected@xdef\@thanks{\@thanks
159     \protect\footnotetext{#1}}%
160 }
```

### 4.1.3 Article abstract

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

`abstract`

```
161 \ifjmlrhtml
162   \renewenvironment{abstract}{\HCode{<h3>}Abstract\HCode{</h3>}}{}%
163 \else
164   \renewenvironment{abstract}
165     {{\centering\large\bfseries Abstract\par}\vspace{0.7ex}%
166     \bgroup
167       \leftskip 20pt\rightskip 20pt\small\noindent\ignorespaces}%
168     {\par\egroup\vskip 0.25ex}
169 \fi
```

### 4.1.4 Keywords

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

`keywords`

```
170 \newenvironment{keywords}
```



```

171 {\bgroup\leftskip 20pt\rightskip 20pt \small\noindent{\bfseries
172 Keywords:} \ignorespaces}%
173 {\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 aai92.sty

```

174 \newlength\aftertitskip      \newlength\beforetitskip
175 \newlength\interauthorskip  \newlength\aftermaketitskip

```

Changeable parameters.

```

176 \setlength\aftertitskip{0.1in plus 0.2in minus 0.2in}
177 \setlength\beforetitskip{0.05in plus 0.08in minus 0.08in}
178 \setlength\interauthorskip{0.08in plus 0.1in minus 0.1in}
179 \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.

```

180 \newcommand*\titlebreak{\newline}

```

`\titletag`

```

181 \newcommand*\titletag[1]{}

```

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

```

182 \renewcommand*\title[2][\@title]{%
183   \def\@shorttitle{#1}%
184   \def\@title{#2}%
185   \protected@write\@auxout{\string\jmlr@title{#1}{#2}}%
186   \jmlrtitlehook
187 }

```

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

```

188 \newcommand*\@shorttitle{\jobname}

```

`\jmlrtitlehook`

```

189 \newcommand*\jmlrtitlehook{}

```

`\jmlr@title` AUX command provided for MakeJmlrBookGUI

```

190 \newcommand*\jmlr@title[2]{}

```

`\author` Override definition of `\author` to allow for an optional argument (list of authors for page heading)

```

191 \renewcommand*\author[2][ ]{%
192   \def\@author{#2}%
193   \def\@sauthor{#1}%
194   \def\@jmlr@aux@author{#2}\@onelevel@sanitize\@jmlr@aux@author

```

```

195 \ifx\@sauthor\@empty
196   \let\@jmlr@aux@sauthor\@jmlr@aux@author
197 \else
198   \let\@shortauthor\@sauthor
199   \def\@jmlr@aux@sauthor{#1}\@onelevel@sanitize\@jmlr@aux@sauthor
200 \fi
201 \jmlrauthorhook
202 \protected@write\@auxout
203   {}{\string\jmlr@author{\@jmlr@aux@sauthor}{\@jmlr@aux@author}}%
204 }

```

\jmlrauthorhook

```
205 \newcommand*\jmlrauthorhook{}
```

\jmlr@author AUX command provided for MakeJmlrBookGUI

```
206 \newcommand*\jmlr@author}[2]{}

```

\@shortauthor

```
207 \newcommand*\@shortauthor{}

```

\@firstauthor

```
208 \newcommand*\@firstauthor{}

```

\@firstsurname

```
209 \newcommand*\@firstsurname{}

```

\jmlrlength

```
210 \newlength\jmlrlength

```

\jmlrmaketitle Make the title

```

211 \def\jmlrmaketitle{%
212   \jmlrpremaketitlehook
213   \def\@jmlr@authors@sep{, }%
214   \par
215   \beginingroup

216   \def\footnotesep{ }%
217   \def\thempfn{\textsuperscript{\thefootnote}}%
218   \def\thefootnote{\fnsymbol{footnote}}%

219   \if@twocolumn
220     \twocolumn[\@jmlrmaketitle]%
221   \else
222     \@jmlrmaketitle
223   \fi
224   \@thanks
225 \endgroup
226 \label{jmlrstart}%

```

```

227 \ifx\@sauthor\@empty
228   \settowidth{\jmlrlength}{\@evenhead}%
229   \ifdim\jmlrlength>\textwidth
230     \def\@shortauthor{\@firstsurname\space et al.}%
231   \fi
232 \fi
233 \settowidth{\jmlrlength}{\@titlefoot}%
234 \ifdim\jmlrlength>\textwidth
235   \def\@jmlrauthors{\@firstauthor\space \emph{et al}}%
236 \fi
237 \jmlrmaketitlehook
238 \thispagestyle{jmlrtps}%
239 \setcounter{footnote}{0}%
240 \let\maketitle\relax \let\@maketitle\relax
241 \gdef\@thanks{} \gdef\@author{} \let\thanks\@gobble
242 \def\@jmlr@authors@sep{ \& }%
243 }

```

\jmlrmaketitlehook

```
244 \newcommand*\jmlrmaketitlehook{}
```

jmlrpremaketitlehook

```
245 \newcommand*\jmlrpremaketitlehook{}
```

Provide a different title layout for HTML

\jmlrhtmlmaketitle

```

246 \newcommand{\jmlrhtmlmaketitle}{%
247   \ifx\@jmlr@authors\@empty
248     \sbox\jmlrbox{\let\addr\relax\@author}%
249   \fi
250   \noindent\HCode{<h2>}\@title\HCode{</h2>}
251   \noindent\@jmlr@authors
252 }

```

\jmlrbox Define a save box

```
253 \newsavebox\jmlrbox
```

\maketitle If we're creating HTML, set \maketitle to \jmlrhtmlmaketitle, otherwise set it to \jmlrmaketitle

```

254 \ifjmlrhtml
255   \let\maketitle\jmlrhtmlmaketitle
256 \else
257   \let\maketitle\jmlrmaketitle
258 \fi

```

Author and editor information.

```
259 \def\@startauthor{\noindent \normalsize\bfseries}
```

```

260 \def\@endauthor{}
261 \def\@starteditor{\noindent \small {\bfseries \@edname:~}}
262 \def\@endeditor{\normalsize}

```

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

\jmlrprettitle

```
263 \def\jmlrprettitle{\vskip\beforetitskip\begin{center}\Large\bfseries}
```

\jmlrposttitle

```
264 \def\jmlrposttitle{\par\end{center}\vskip\aftertitskip}
```

\nametag

```
265 \newcommand*{\nametag}[1]{}
```

\jmlrpreauthor

```

266 \def\jmlrpreauthor{%
267 \bgroup
268   \def\nametag##1{##1}%
269   \def\and{\unskip\enspace{\normalfont and}\enspace}%

270   \def\addr{\mdseries\small\itshape}%
271   \def\name{\ClassError{jmlr}{Use \string\Name{Author's Name} not \string\name}{}}%
272   \def\email{\ClassError{jmlr}{Use \string\Email{address} not \string\email}{}}%
273   \def\AND{\@endauthor\normalfont\hss \vskip \interauthorskip
274     \@startauthor}%
275   \@startauthor
276 }

```

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

```
277 \newcommand{\addr}{}

```

\@email

```
278 \def\@email{\hfill\small\mdseries\scshape}%

```

\@name

```
279 \def\@name{\normalsize\upshape\bfseries}%

```

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

```

280 \def\@parsename#1 #2\end@parsename{%
281   \def\@tmp{#2}%
282   \ifx\@tmp\@nnil
283     \def\@surname{#1}%
284     \let\@nextparsename\@parsenamenoop
285   \else
286     \@getinitial#1-\relax\relax\end@getinitial
287     \ifx\@forenames\@empty
288       \def\@forenames{#1}%

```

```

289     \protected@edef\@initials{\@initial}%
290   \else
291     \expandafter\toks@\expandafter{\@forenames}%
292     \edef\@forenames{\space\the\toks@}%
293     \expandafter\toks@\expandafter{\@initials}%
294     \protected@edef\@initials{\the\toks@\@initial}%
295   \fi
296   \let\@nextparsename\@parsename
297 \fi
298 \@nextparsename#2\end@parsename
299 }
300 \def\@parsenamenoop#1\end@parsename{}

```

\@getinitial

```

301 \def\@getinitial#1#2-#3#4\end@getinitial{%
302   \def\@jmlr@tmp{#3}%
303   \if\@jmlr@tmp\relax
304     \def\@initial{#1.}%
305   \else
306     \def\@initial{#1.-#3.}%
307   \fi
308 }

```

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

```

309 \newcommand*\@Name [2] [] {%
310   \def\@authorlist{#1}%
311   \def\@forenames{}%
312   \def\@surname{}%
313   \def\@nametag##1{%
314     \@parsename#2 \@nil\end@parsename
315   \ifx\@shortauthor\@empty
316     \ifx\@sauthor\@empty
317       \global\let\@shortauthor\@surname
318       \global\let\@firstsurname\@surname
319     \fi
320   \ifx\@authorlist\@empty
321     \protected@xdef\@jmlrauthors{\@initials\space\@surname}%
322   \else
323     \protected@xdef\@jmlrauthors{\@authorlist}%
324   \fi
325   \global\let\@firstauthor\@jmlrauthors
326 \else
327   \ifx\@sauthor\@empty
328     \expandafter\toks@\expandafter{\@shortauthor}%
329     \protected@xdef\@shortauthor{\the\toks@\space\@surname}%
330   \fi
331   \ifx\@authorlist\@empty
332     \ifx\@jmlrauthors\@empty

```

```

333     \protected@xdef\@jmlrauthors{\@initials\space\@surname}%
334   \else
335     \protected@xdef\@jmlrauthors{\@jmlrauthors
336       \noexpand\@jmlr@authors@sep
337       \@initials\space\@surname}%
338   \fi
339 \else
340   \ifx\@jmlrauthors\@empty
341     \protected@xdef\@jmlrauthors{\@authorlist}%
342   \else
343     \protected@xdef\@jmlrauthors{\@jmlrauthors
344       \noexpand\@jmlr@authors@sep
345       \@authorlist
346     }%
347   \fi
348 \fi
349 \fi
350 \def\nametags#1{##1}%
351 \@name #2%
352 }

```

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

```

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

```

`\@jmlrabbrname`

```

374 \newcommand*\@jmlrabbrname}[1]{%
375   \def\@initials{%

```

```

376 \def\@surname{}%
377 \def\@forenames{}%
378 \@parsename#1 \@nil\end@parsename
379 }

```

`\Email`

```

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

```

`\jmlrpostauthor`

```

381 \def\jmlrpostauthor{\@endauthor\egroup
382 \par
383 \vskip \aftermaketitskip
384 \noindent
385 \ifx\@editor\@empty
386 \else
387 \@starteditor \@editor \@endeditor
388 \fi
389 \vskip \aftermaketitskip
390 }

```

`\@jmlrmaketitle`

```

391 \def\@jmlrmaketitle{\vbox{\hsize\textwidth
392 \linewidth\hsize
393 \jmlrprettitle
394 {%
395 \def\titletag##1{##1}%
396 \@title
397 }%
398 \jmlrposttitle
399 \jmlrpreauthor \@author \jmlrpostauthor
400 }}

```

`\kernelmachines` Convenience command

```

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

```

`\editorname` Label for the editor

```

403 \newcommand*\editorname{Editor}

```

`\editorsname` Label for the editor

```

404 \newcommand*\editorsname{Editors}

```

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

```

405 \let\@edname\editorname

```

`\@editor` The editor or editors are stored in `\@editor`

```

406 \def\@editor{}

```

`\editor` A single editor  
 407 `\def\editor#1{%`  
 408 `\global\let\@edname\editorname`  
 409 `\gdef\@editor{#1}%`  
 410 `}`

`\editors` Multiple editors  
 411 `\def\editors#1{%`  
 412 `\global\let\@edname\editorsname`  
 413 `\gdef\@editor{#1}%`  
 414 `}`

### 4.1.6 Pagestyles

This is taken from `jmlr2e.sty`

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

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

Label end page.

`\@jmlrenddoc` Label end page  
 417 `\newcommand*\@jmlrenddoc{%`  
 418 `\phantomsection`  
 419 `\protected@edef\@currentlabelname{end of \@shorttitle}%`  
 420 `\label{jmlrend}\null`  
 421 `\global\let\@reprint\@empty`  
 422 `}`

`\@titlefoot`  
 423 `\newcommand*\@titlefoot{\scriptsize\copyright\space\@jmlryear`  
 424 `\space\@jmlr@authors.\hfill`  
 425 `\@reprint`  
 426 `}`

`\reprint`  
 427 `\let\@reprint\@empty`  
 428 `\newcommand{\reprint}[1]{%`  
 429 `\gdef\@reprint{Reprinted with permission for JMLR#1}}`

`\ps@jmlrtps` Title page style  
 430 `\newcommand\ps@jmlrtps{%`  
 431 `\let\@mkboth\@gobbletwo`  
 432 `\def\@oddhead{\scriptsize \@jmlrproceedings`  
 433 `\ifx\@jmlrvolume\@empty`



```

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

```

\ps@jmlrps Page style for subsequent pages

```

472 \def\ps@jmlrps{%
473 \let\@mkboth\@gobbletwo
474 \def\@oddhead{\hfill {\small\scshape \@shorttitle} \hfill}%
475 \def\@oddfoot{\hfill \small\rmfamily \thepage \hfill}%
476 \def\@evenhead{\hfill {\small\scshape \@shortauthor} \hfill}%
477 \def\@evenfoot{\hfill \small\rmfamily \thepage \hfill}%
478 }%

```

Set the page style:

```

479 \pagestyle{jmlrps}

```

Set the heading information:

`\@jmlrvolume` The volume number:

```
480 \providecommand*\@jmlrvolume{}
```

`\jmlrvolume`

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

`\@jmlrissue` The issue number:

```
482 \providecommand*\@jmlrissue{}
```

`\jmlrissue`

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

`\@jmlryear` The year of publication:

```
484 \providecommand*\@jmlryear{}
```

`\jmlryear`

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

`\@jmlrpages` The page range:

```
486 \providecommand*\@jmlrpages{\pageref{jmlrstart}--\pageref{jmlrend}}
```

`\jmlrpages`

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

`\@jmlrsubmitted` The date the article was submitted:

```
488 \providecommand*\@jmlrsubmitted{}
```

`\jmlrsubmitted`

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

`\@jmlrpublished` The date the article was published:

```
490 \providecommand*\@jmlrpublished{}
```

`\jmlrpublished`

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

`\@jmlrworkshop` The name of the workshop:

```
492 \providecommand*\@jmlrworkshop{}
```

`\jmlrworkshop`

```
493 \newcommand*\jmlrworkshop}[1]{%
```

```
494 \renewcommand*\@jmlrworkshop{#1}%
```

```
495 \protected@write\@auxout{}{\string\jmlr@workshop{#1}}%
```

```
496 }
```

```

\jmlr@workshop
497 \newcommand*\jmlr@workshop}[1]{%

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

\jmlr@date
502 \newcommand*\jmlr@date}[1]{%

\@jmlrauthors
503 \newcommand*\@jmlrauthors}{%

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

\jmlrauthors This is provided in case \Name doesn't set \@jmlrauthors correctly.
505 \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

```

506 \def\figurecaption#1#2{\noindent\hangindent 40pt
507 \hbox to 36pt {\small\slshape #1 \hfil}
508 \ignorespaces {\small #2}}

```

Figurecenter prints the caption title centered.

```

509 \def\figurecenter#1#2{\centerline{{\slshape #1} #2}}
510 \def\figurecenter#1#2{\centerline{{\small\slshape #1} {\small #2}}}

```

Allow “hanging indents” in long captions

```

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

```

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

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

`\acks` Acknowledgments

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

Research Note

`\researchnote`

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

`\set`

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

Convenient macros for cross-referencing.

```
528 \newcommand*\@jmlr@reflistsep}{, }
529 \newcommand*\@jmlr@reflistlastsep}{ and }
530 \newcommand*\sectionrefname}{Section}
531 \newcommand*\sectionsrefname}{Sections}
532 \newcommand*\equationrefname}{Equation}
533 \newcommand*\equationsrefname}{Equations}
534 \newcommand*\tablerefname}{Table}
535 \newcommand*\tablesrefname}{Tables}
536 \newcommand*\figurerefname}{Figure}
537 \newcommand*\figuresrefname}{Figures}
538 \newcommand*\algorithmrefname}{Algorithm}
539 \newcommand*\algorithmsrefname}{Algorithms}
540 \newcommand*\theoremrefname}{Theorem}
541 \newcommand*\theoremsrefname}{Theorems}
542 \newcommand*\lemmarefname}{Lemma}
543 \newcommand*\lemmasrefname}{Lemmas}
544 \newcommand*\remarkrefname}{Remark}
545 \newcommand*\remarksrefname}{Remarks}
546 \newcommand*\corollaryrefname}{Corollary}
547 \newcommand*\corollarysrefname}{Corollaries}
548 \newcommand*\definitionrefname}{Definition}
549 \newcommand*\definitionsrefname}{Definitions}
550 \newcommand*\conjecturerefname}{Conjecture}
551 \newcommand*\conjecturesrefname}{Conjectures}
552 \newcommand*\axiomrefname}{Axiom}
553 \newcommand*\axiomsrefname}{Axioms}
554 \newcommand*\examplerefname}{Example}
555 \newcommand*\examplesrefname}{Examples}
556 \newcommand*\appendixrefname}{Appendix}
557 \newcommand*\appendixsrefname}{Appendices}
558 \newcommand*\partrefname}{Part}
559 \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.

```

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

```

`\sectionref`

```

580 \newcommand*\sectionref}[1]{%
581   \objectref{#1}{\sectionrefname}{\sectionsrefname}{-}{-}}

```

`\equationref`

```

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

```

`\tableref`

```

584 \newcommand*\tableref}[1]{%
585   \objectref{#1}{\tablerefname}{\tablesrefname}{-}{-}}

```

`\figureref`

```

586 \newcommand*\figureref}[1]{%
587   \objectref{#1}{\figurerefname}{\figuresrefname}{-}{-}}

```

`\algorithmref`

```

588 \newcommand*\algorithmref}[1]{%
589   \objectref{#1}{\algorithmrefname}{\algorithmsrefname}{-}{-}}

```

`\theoremref`

```
590 \newcommand*\theoremref[1]{%
591   \objectref{#1}{\theoremrefname}{\theoremsrefname}{-}}
```

`\lemmaref`

```
592 \newcommand*\lemmaref[1]{%
593   \objectref{#1}{\lemmarefname}{\lemmasrefname}{-}}
```

`\remarkref`

```
594 \newcommand*\remarkref[1]{%
595   \objectref{#1}{\remarkrefname}{\remarksrefname}{-}}
```

`\corollaryref`

```
596 \newcommand*\corollaryref[1]{%
597   \objectref{#1}{\corollaryrefname}{\corollarysrefname}{-}}
```

`\definitionref`

```
598 \newcommand*\definitionref[1]{%
599   \objectref{#1}{\definitionrefname}{\definitionsrefname}{-}}
```

`\conjectureref`

```
600 \newcommand*\conjectureref[1]{%
601   \objectref{#1}{\conjecturerefname}{\conjecturesrefname}{-}}
```

`\axiomref`

```
602 \newcommand*\axiomref[1]{%
603   \objectref{#1}{\axiomrefname}{\axiomsrefname}{-}}
```

`\exampleref`

```
604 \newcommand*\exampleref[1]{%
605   \objectref{#1}{\examplerefname}{\examplesrefname}{-}}
```

`\appendixref`

```
606 \newcommand*\appendixref[1]{%
607   \objectref{#1}{\appendixrefname}{\appendixsrefname}{-}}
```

`\partref`

```
608 \newcommand*\partref[1]{%
609   \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

```
610 \newcommand\floatconts[3]{%
611   \@ifundefined{@capttype conts}{\tableconts{#1}{#2}{#3}}%
612   {\csname@capttype conts\endcsname{#1}{#2}{#3}}%
613 }
```

`\tablecnts`

```
614 \newcommand{\tablecnts}[3]{%
615   \iftablecaptiontop
616     #2\label{#1}\vskip\baselineskip
617     {\centering #3\par}%
618   \else
619     {\centering #3\par}%
620     \vskip\baselineskip
621     #2\label{#1}%
622   \fi
623 }
```

`\figurecnts`

```
624 \newcommand{\figurecnts}[3]{%
625   {\centering #3\par}%
626   \vskip\baselineskip
627   #2\label{#1}%
628 }
```

`\algocfcnts`

```
629 \newcommand{\algocfcnts}[3]{%
630   \@algocf@pre@ruled
631   #2\label{#1}\kern2pt\hrule height.8pt depth0pt\kern2pt%
632   #3\@algocf@pre@ruled
633 }
```

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

```
634 \newcommand*{\includeteximage}[2][ ]{%
635   \def\Gin@req@sizes{%
636     \Gin@req@height\Gin@nat@height
637     \Gin@req@width\Gin@nat@width}%
638   \begingroup
639     \@tempwafalse
640     \let\input@path\Ginput@path
641     \toks@{\InputIfFileExists{#2}{}\{\@warning{File ‘#1’ not found}}}%
642     \setkeys{Gin}{#1}%
643     \Gin@esetsize
644     \the\toks@
645   \endgroup
646 }
```

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

```
647 \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.

```

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

```

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

```

688 \newenvironment{algorithm}[1][htbp]%
689 {%
690 \begin{algocf}[#1]%
691 \renewcommand\@makecaption[2]{%
692 \hskip\AlCapHSkip
693 \parbox[t]{\hsize}{\algocf@captiontext{##1}{##2}}%
694 }%

```



```

695 }%
696 {%
697   \end{algocf}%
698 }

```

Set the algorithm margin to zero.

```
699 \setlength\algomargin{0pt}
```

`\artappendix` Switch to appendices in an article

```

700 \newcommand{\artappendix}{\par
701   \setcounter{section}{0}
702   \setcounter{subsection}{0}
703   \def\thesection{\Alph{section}}

704   \def\theHsection{\theHchapter.\Alph{section}}
705   \def\presectionnum{Appendix~}%
706 }

```

The default assumes a stand-alone article.

`\appendix`

```
707 \let\appendix\artappendix
```

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

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

#### 4.1.8 Proofs and Theorems

This code is taken from `jmlr2e.sty`

`\BlackBox` End of proof marker

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

`proof` Proof environment

```

710 \newenvironment{proof}{\par\noindent{\bfseries\upshape
711   Proof\ }}{\hfill\BlackBox\[\[2mm]}

```

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

`\theorembodyfont` `\theorembodyfont{<font declarations>}`

```

712 \newcommand*{\theorembodyfont}[1] {%
713   \renewcommand*{\@theorembodyfont}{#1}%
714 }
715 \newcommand*{\@theorembodyfont}{\normalfont\itshape}%

```

`\theoremheaderfont` `\theoremheaderfont{<font declarations>}`

```
716 \newcommand*\theoremheaderfont[1]{%
717   \renewcommand*\@theoremheaderfont{#1}%
718 }
719 \newcommand*\@theoremheaderfont{\normalfont\bfseries }%
```

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

```
720 \newcommand*\theoremsep[1]{%
721   \renewcommand*\@theoremsep{#1}%
722 }
723 \newcommand*\@theoremsep{ }%
```

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

```
724 \newcommand*\theorempostheader[1]{%
725   \renewcommand*\@theorempostheader{#1}%
726 }
727 \newcommand*\@theorempostheader{ }%
```

`\newtheorem`

```
728 \let\jmlr@org@newtheorem\newtheorem
729 \renewcommand*\newtheorem{\ifstar\jmlr@snewtheorem\jmlr@newtheorem}
```

Define starred version:

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

```
730 \newcommand*\jmlr@snewtheorem[2]{%
731   \cslet{jmlr@thm@#1@body@font}{\@theorembodyfont}%
732   \cslet{jmlr@thm@#1@header@font}{\@theoremheaderfont}%
733   \cslet{jmlr@thm@#1@sep}{\@theoremsep}%
734   \cslet{jmlr@thm@#1@postheader}{\@theorempostheader}%
735   \newenvironment{#1}%
736   {%
737     \trivlist
738     \item
739     [%
740       \hskip\labelsep{\csuse{jmlr@thm@#1@header@font}#2%
741         \csuse{jmlr@thm@#1@postheader}}%
742     ]%
743     \mbox{}%
744     \csuse{jmlr@thm@#1@sep}%
745     \csuse{jmlr@thm@#1@body@font}%
746   }%
```

```

747  {%
748    \endtrivlist
749  }%
750 }

```

Unstarred version needs adjusting to take the style into account:

\@othm

```

751 \newcommand{\jmlr@newtheorem}[1]{%
752   \cslet{jmlr@thm@#1@body@font}{\@theorembodyfont}%
753   \cslet{jmlr@thm@#1@header@font}{\@theoremheaderfont}%
754   \cslet{jmlr@thm@#1@sep}{\@theoremsep}%
755   \cslet{jmlr@thm@#1@postheader}{\@theorempostheader}%
756   \jmlr@org@newtheorem{#1}%
757 }

```

\@xthm

```

758 \renewcommand*\@xthm}[2]{%
759   \def\@jmlr@currentthm{#1}%
760   \@begintheorem{#2}{\csname the#1\endcsname}%
761   \ignorespaces
762 }

```

\@ythm

```

763 \def\@ythm#1#2[#3]{%
764   \def\@jmlr@currentthm{#1}%
765   \@opargbegintheorem{#2}{\csname the#1\endcsname}{#3}%
766   \ignorespaces
767 }

```

\@begintheorem

```

768 \renewcommand*\@begintheorem}[2]{%
769   \ifdef\@jmlr@currentthm}%
770   {%
771     \letcs{jmlr@this@theoremheader}{jmlr@thm@\@jmlr@currentthm @header@font}%
772     \letcs{jmlr@this@theorembody}{jmlr@thm@\@jmlr@currentthm @body@font}%
773     \letcs{jmlr@this@theoremsep}{jmlr@thm@\@jmlr@currentthm @sep}%
774     \letcs{jmlr@this@theorempostheader}{%
775       {jmlr@thm@\@jmlr@currentthm @postheader}%
776     }%
777     {%
778       \let\jmlr@this@theorembody\@theorembodyfont
779       \let\jmlr@this@theoremheader\@theoremheaderfont
780       \let\jmlr@this@theoremsep\@theoremsep
781       \let\jmlr@this@theorempostheader\@theorempostheader
782     }%
783     \trivlist
784     \item
785     [%

```

```

786     \hskip\labelsep{\jmlr@this@theoremheader #1\ #2%
787     \jmlr@this@theorempostheader}%
788   ]%
789   \mbox{\jmlr@this@theoremsep
790   \jmlr@this@theorembody
791 }

```

\@opargbegintheorem

```

792 \renewcommand*{\@opargbegintheorem}[3]{%
793   \ifdef{\@jmlr@currentthm}%
794   {%
795     \letcs{\jmlr@this@theoremheader}{\jmlr@thm@\@jmlr@currentthm @header@font}%
796     \letcs{\jmlr@this@theorembody}{\jmlr@thm@\@jmlr@currentthm @body@font}%
797     \letcs{\jmlr@this@theoremsep}{\jmlr@thm@\@jmlr@currentthm @sep}%
798     \letcs{\jmlr@this@theorempostheader}{%
799       \jmlr@thm@\@jmlr@currentthm @postheader}%
800   }%
801   {%
802     \let\jmlr@this@theorembody\@theorembodyfont
803     \let\jmlr@this@theoremheader\@theoremheaderfont
804     \let\jmlr@this@theoremsep\@theoremsep
805     \let\jmlr@this@theorempostheader\@theorempostheader
806   }%
807   \trivlist
808   \item[\hskip\labelsep{\jmlr@this@theoremheader #1\ #2\ (#3)%
809     \jmlr@this@theorempostheader}]{%
810     \mbox{\jmlr@this@theoremsep
811     \jmlr@this@theorembody
812 }

```

example

```
813 \newtheorem{example}{Example}
```

theorem

```
814 \newtheorem{theorem}{Theorem}
```

lemma

```
815 \newtheorem{lemma}[theorem]{Lemma}
```

proposition

```
816 \newtheorem{proposition}[theorem]{Proposition}
```

remark

```
817 \newtheorem{remark}[theorem]{Remark}
```

corollary

```
818 \newtheorem{corollary}[theorem]{Corollary}
```

definition

```
819 \newtheorem{definition}[theorem]{Definition}
```

conjecture

```
820 \newtheorem{conjecture}[theorem]{Conjecture}
```

axiom

```
821 \newtheorem{axiom}[theorem]{Axiom}
```

`\vec` Redefine `\vec` to produce a bold symbol

```
822 \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.

```
823 \newenvironment{enumerate*}%  
824 {%  
825   \ifnum\@enumdepth=0\relax  
826     \setcounter{enumi}{0}%  
827   \fi  
828   \ifnum\@enumdepth>\thr@@  
829     \@toodeep  
830   \else  
831     \advance\@enumdepth\@ne  
832     \def\@enumctr{enumi}%  
833     \list  
834       {\labelenumi}%  
835       {\@nmblisttrue\def\@listctr{enumi}%  
836         \def\makelabel##1{\hss\llap{##1}}}%  
837   \fi  
838 }%  
839 {\endlist}
```

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

```
840 \newenvironment{altdescription}[1]%  
841   {\list{}}%  
842   {%  
843     \settowidth{\labelwidth}{\altdescriptionlabel{#1}}%  
844     \setlength{\labelsep}{15pt}%  
845     \setlength{\leftmargin}{2\labelsep}%  
846     \addtolength{\leftmargin}{\labelwidth}%  
847     \setlength{\rightmargin}{\labelsep}%  
848     \let\makelabel\altdescriptionlabel  
849   }%  
850 }%  
851 {\endlist}  
852  
853 \newcommand*{\altdescriptionlabel}[1]{\normalfont\bfseries #1\hfill}
```

`\mailto` Syntax: `\mailto{<address>}`  
 854 `\newcommand*{\mailto}[1]{\texttt{#1}}`

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

`\c@subfigure` Define subfigure counter:  
 855 `\newcounter{subfigure}`  
 856 `\@addtoreset{subfigure}{figure}`

`\thesubfigure`  
 857 `\renewcommand*{\thesubfigure}{\alph{subfigure}}`

`\p@subfigure`  
 858 `\renewcommand*{\p@subfigure}{\expandafter\p@subfigure}`  
 859 `\newcommand*{\p@subfigure}[1]{%`  
 860 `\protect\@subfigurelabel{thefigure}{\thesubfigure}%`  
 861 `}`

`\@subfigurelabel` Define how label appears.  
 862 `\newcommand*\@subfigurelabel[2]{#1\subfigurelabel{#2}}`

`\subfigref` Reference the sub-figure without including the figure number.  
 863 `\newcommand*\subfigref[1]{%`  
 864 `{%`  
 865 `\def\@subfigurelabel##1##2{\subfigurelabel{##2}}%`  
 866 `\ref{#1}%`  
 867 `}%`  
 868 `}`  
 869 `\newcommand*\subfigref}[1]{%`  
 870 `\let\@objectname\@empty`  
 871 `\def\@objectref{}%`  
 872 `\let\@prevsep\@empty`  
 873 `\@for\@thislabel:=#1\do{%`  
 874 `\toks@{\@prevsep}%`  
 875 `\protected@edef\@objectref{\@objectref\the\toks@`  
 876 `\protect\@subfigref{\@thislabel}}%`  
 877 `\ifx\@objectname\@empty`  
 878 `\let\@objectname\@nil`  
 879 `\else`  
 880 `\let\@objectname\relax`  
 881 `\let\@prevsep\@jmlr@reflistsep`  
 882 `\fi`  
 883 `}%`  
 884 `\ifx\@objectname\relax`  
 885 `\let\@prevsep\@jmlr@reflistlastsep`  
 886 `\fi`  
 887 `\@objectref`  
 888 `}`

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

`\@subfloatcapbox` Box to store subfloat caption.  
890 `\newsavebox\@subfloatcapbox`

`\@subfloatcontsbox` Box to store subfloat contents.  
891 `\newsavebox\@subfloatcontsbox`

`\subfigure`  
892 `\newcommand*{\subfigure}[1] [] {%`  
893 `\bgroup`  
894 `\def\@subfigcap{#1}%`  
895 `\@subfigure`  
896 `}`

897 `\newcommand*{\@subfigure}[2] [b] {%`  
898 `\advance\c@figure by 1\relax`  
899 `\refstepcounter{subfigure}%`  
900 `\abox\@subfloatcapbox{\subfigurelabel{\thesubfigure}}%`  
901 `\ifx\@subfigcap\@empty`  
902 `\else`  
903 `\space\@subfigcap`  
904 `\fi}%`  
905 `\abox\@subfloatcontsbox{#2}%`  
906 `\settowidth{\@tempdima}{\usebox\@subfloatcontsbox}%`  
907 `\settowidth{\@tempdimb}{\usebox\@subfloatcapbox}%`  
908 `\ifdim\@tempdimb>\@tempdima`  
909 `\settowidth\@tempdimb{\subfigurelabel{\thesubfigure}\space}%`  
910 `\addtolength{\@tempdima}{-\@tempdimb}%`  
911 `\abox\@subfloatcapbox{\subfigurelabel{\thesubfigure}\space`  
912 `\parbox[t]{\@tempdima}{\@subfigcap}}%`  
913 `\fi`  
914 `\begin{tabular}[#1]{@{}c@{}}%`  
915 `\usebox\@subfloatcontsbox\\ \usebox\@subfloatcapbox`  
916 `\end{tabular}%`  
917 `\egroup`  
918 `}`

Sub-tables:

`\c@subtable` Define subtable counter:  
919 `\newcounter{subtable}`  
920 `\@addtoreset{subtable}{table}`

`\thesubtable`  
921 `\renewcommand*{\thesubtable}{\alph{subtable}}`

```

\p@subtable
922 \renewcommand*{\p@subtable}{\expandafter\p@subtable}
923 \newcommand*{\@p@subtable}[1]{%
924   \protect\@subtablelabel{\thetable}{\thesubtable}%
925 }

\@subtablelabel Define how label appears.
926 \newcommand*\@subtablelabel[2]{#1\subtablelabel{#2}}

\subtabref Reference the sub-table without including the table number.
927 \newcommand*\subtabref[1]{%
928   {%
929     \def\@subtablelabel##1##2{\subtablelabel{##2}}%
930     \ref{#1}%
931   }%
932 }
933 \newcommand*\subtabref}[1]{%
934   \let\@objectname\@empty
935   \def\@objectref{}%
936   \let\@prevsep\@empty
937   \@for\@thislabel:=#1\do{%
938     \toks@{\@prevsep}%
939     \protected@edef\@objectref{\@objectref\the\toks@
940       \protect\@subtabref{\@thislabel}}%
941     \ifx\@objectname\@empty
942 \let\@objectname\@nil
943     \else
944 \let\@objectname\relax
945       \let\@prevsep\@jmlr@reflistsep
946     \fi
947   }%
948   \ifx\@objectname\relax
949     \let\@prevsep\@jmlr@reflistlastsep
950   \fi
951   \@objectref
952 }

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

\subtable
954 \newcommand*\subtable}[1][ ]{%
955   \def\@subtabcap{#1}%
956   \@subtable
957 }

958 \newcommand*\@subtable}[2][t]{%
959   \refstepcounter{subtable}%
960   \sbox\@subfloatcapbox{\subtablelabel{\thesubtable}}%

```



```

961 \ifx\@subtabcap\@empty
962 \else
963   \space\@subtabcap
964 \fi}%
965 \sbox\@subfloatcontsbox{#2}%
966 \settowidth{\@tempdima}{\usebox\@subfloatcontsbox}%
967 \settowidth{\@tempdimb}{\usebox\@subfloatcapbox}%
968 \ifdim\@tempdimb>\@tempdima
969   \settowidth\@tempdimb{\subtablelabel{\thesubtable}\space}%
970   \addtolength{\@tempdima}{-\@tempdimb}%
971   \sbox\@subfloatcapbox{\subtablelabel{\thesubtable}\space
972     \parbox[t]{\@tempdima}{\@subtabcap}}%
973 \fi
974 \begin{tabular}[#1]{@{}c@{}}%
975 \usebox\@subfloatcapbox\\ \usebox\@subfloatcontsbox
976 \end{tabular}
977 }

```

#### 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

```

978 \newcounter{chapter}
979 \renewcommand\thechapter{\@arabic\c@chapter}
980 \newcommand\@chapapp{\chaptername}

```

Add sections to the chapter reset.

```

981 \@addtoreset{section}{chapter}

```

`\chaptermark`

```

982 \newcommand*\chaptermark[1]{ }

```

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

`\bookchapter`

```

983 \newcommand\bookchapter{%
984   \if@openright\cleardoublepage\else\clearpage\fi
985   \thispagestyle{plain}%
986   \global\@topnum\z@
987   \@afterindentfalse
988   \secdef\@chapter\@schapter}

```

`\artchapter` Disable chapters for articles.

```

989 \newcommand\artchapter{%
990   \ClassError{jmlr}{Chapters not permitted in articles}{} }

```

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

```

991 \let\chapter\artchapter

```

Label for the chapter entries in the toc.

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

`\@chapter` Numbered chapters

```
993 \def\@chapter[#1]#2{\ifnum \c@secnumdepth >\m@ne
994             \refstepcounter{chapter}%
995             \if@mainmatter
996             \typeout{\@chapapp\space\thechapter.}%
997             \addcontentsline{toc}{\@chaptoclabel}%
998             {\protect\numberline{\thechapter}#1}%
999             \else
1000            \addcontentsline{toc}{\@chaptoclabel}{#1}%
1001            \fi
1002            \else
1003            \addcontentsline{toc}{\@chaptoclabel}{#1}%
1004            \fi
1005            \chaptermark{#1}%
1006            \addtocontents{lof}{\protect\addvspace{10\p@}}%
1007            \addtocontents{lot}{\protect\addvspace{10\p@}}%
1008            \if@twocolumn
1009            \@topnewpage[\@makechapterhead{#2}]%
1010            \else
1011            \@makechapterhead{#2}%
1012            \@afterheading
1013            \fi}
```

`\chaptertitleformat` Formats the chapter title

```
1014 \newcommand{\chaptertitleformat}[1]{%
1015   \Huge\bfseries#1%
1016 }
```

`\chapternumberformat` Formats the chapter number

```
1017 \newcommand{\chapternumberformat}[1]{%
1018   \huge\bfseries \@chapapp\space#1\par\nobreak
1019   \vskip 20\p@
1020 }
```

`\chapterformat` Overall format for chapter headings

```
1021 \newcommand*{\chapterformat}{\raggedright}
```

`\postchapterskip` Vertical gap after chapter heading

```
1022 \newlength\postchapterskip
1023 \setlength\postchapterskip{40pt}
```

`\prechapterskip` Vertical gap before chapter heading

```
1024 \newlength\prechapterskip
1025 \setlength\prechapterskip{50pt}
```

```

\@makechapterhead Chapter heading for numbered chapters
1026 \def\@makechapterhead#1{%
1027   \null\vskip\prechapterskip
1028   {\parindent \z@ \normalfont\chapterformat
1029     \ifnum \c@secnumdepth >\m@ne
1030       \if@mainmatter
1031         \chapternumberformat{\thechapter}%
1032         \fi
1033       \fi
1034       \interlinepenalty\@M
1035       \chaptertitleformat{#1}\par\nobreak
1036       \vskip \postchapterskip
1037   }}

\@schapter Unnumbered chapters.
1038 \def\@schapter#1{\if@twocolumn
1039   \topnewpage[\@makeschapterhead{#1}]%
1040   \else
1041     \@makeschapterhead{#1}%
1042     \@afterheading
1043   \fi}

\@makeschapterhead Layout for unnumbered chapter headings
1044 \def\@makeschapterhead#1{%
1045   \vspace*{\prechapterskip}%
1046   {\parindent \z@
1047     \normalfont\chapterformat
1048     \interlinepenalty\@M
1049     \chaptertitleformat{#1}\par\nobreak
1050     \vskip \postchapterskip
1051   }}

\l@chapter Format for chapter entry in toc
1052 \newcommand*\l@chapter[2]{%
1053   \ifnum \c@tocdepth >\m@ne
1054     \addpenalty{-\@highpenalty}%
1055     \vskip 1.0em \@plus\p@
1056     \setlength\@tempdima{1.5em}%
1057     \begingroup
1058       \parindent \z@ \rightskip \@pnumwidth
1059       \parfillskip -\@pnumwidth
1060       \leavevmode \large\bfseries
1061       \advance\leftskip\@tempdima
1062       \hskip -\leftskip
1063       #1\nobreak\hfil \nobreak\hb@xt@\@pnumwidth{\hss #2}\par
1064       \penalty\@highpenalty
1065     \endgroup
1066   \fi}

```

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

```
1067 \let\l@appendix\l@chapter
```

`\chaptername`

```
1068 \newcommand\chaptername{Chapter}
```

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

```
1069 \newcommand\frontmatter{%
1070   \cleardoublepage
1071   \@mainmatterfalse
1072   \renewcommand*\theHchapter{front-\thechapter}%
1073   \pagenumbering{roman}%
1074   \morefrontmatter
1075 }
1076 \newcommand\morefrontmatter{}
```

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

```
1077 \newcommand\mainmatter{%
1078   \cleardoublepage
1079   \@mainmattertrue
1080   \setcounter{chapter}{0}%
1081   \renewcommand*\theHchapter{\thechapter}%
1082   \pagenumbering{arabic}%
1083   \moremainmatter
1084 }
1085 \newcommand\moremainmatter{}
```

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

```
1086 \newcommand\backmatter{%
1087   \if@openright
1088     \cleardoublepage
1089   \else
1090     \clearpage
1091   \fi
1092   \@mainmatterfalse}
```

`\booktocpreamble`

```
1093 \newcommand*\booktocpreamble{}
```

`\booktocpostamble`

```
1094 \newcommand*\booktocpostamble{}
```

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

```
1095 \newcommand\booktableofcontents{%
1096   \if@twocolumn
1097     \@restonecoltrue\onecolumn
1098   \else
```

```

1099   \@restonecolfalse
1100   \fi
1101   \chapter*{\contentsname
1102     \@mkboth{\MakeUppercase\contentsname}{\MakeUppercase\contentsname}}%
1103   \booktocpreamble
1104   \@starttoc{toc}%
1105   \booktocpostamble
1106   \if@restonecol
1107     \twocolumn
1108   \else
1109     \clearpage
1110   \fi
1111   \@mkboth{}{}%
1112 }

```

`\arttableofcontents` Table of contents for individual articles.

```

1113 \let\arttableofcontents\tableofcontents

```

`\artpart` A part in an article

```

1114 \newcommand{\artpart}{%
1115   \def\toclevel@part{0}%
1116   \if@noskipsec \leavevmode\fi
1117   \par
1118   \addvspace{4ex}%
1119   \@afterindentfalse
1120   \secdef\@artpart\@sartpart
1121 }
1122 \let\@artpart\@part
1123 \let\@sartpart\@spart

```

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

```

1124 \newcommand\bookpart{%
1125   \def\toclevel@part{-1}%
1126   \if@openright
1127     \cleardoublepage
1128   \else
1129     \clearpage
1130   \fi
1131   \thispagestyle{plain}%
1132   \if@twocolumn
1133     \onecolumn
1134     \@tempwattrue
1135   \else
1136     \@tempwafalse
1137   \fi
1138   \preparthook
1139   \secdef\@bookpart\@sbookpart}

```

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

```
1140 \newcommand{\parttitleformat}[1]{%
1141   \Huge\bfseries#1%
1142 }
```

Part labels

```
1143 \newcommand*{\@parttoclabel}{part}
```

`\@partapp`

```
1144 \def\@partapp{\partname}
```

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

```
1145 \newcommand{\partnumberformat}[1]{%
1146   \Huge\bfseries \@partapp\nobreakspace#1\par\nobreak
1147   \vskip 20\p@
1148 }
```

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

```
1149 \newcommand{\preparthook}{\null\vfil}
```

`\partformat` Overall format of part

```
1150 \newcommand*{\partformat}{\centering}
```

`\@bookpart` Numbered book part format

```
1151 \def\@bookpart[#1]#2{%
1152   \ifnum \c@secnumdepth >-2\relax
1153     \refstepcounter{part}%
1154     \addcontentsline{toc}{\@parttoclabel}{\protect\numberline{\thepart}#1}%
1155   \else
1156     \addcontentsline{toc}{\@parttoclabel}{#1}%
1157   \fi
1158   \markboth{}{}%
1159   {\interlinepenalty \@M
1160    \normalfont\partformat
1161    \ifnum \c@secnumdepth >-2\relax
1162      \partnumberformat{\thepart}%
1163    \fi
1164    \parttitleformat{#2}\par}%
1165   \postparthook}
```

`\@sbookpart` Unnumbered book part format

```
1166 \def\@sbookpart#1{%
1167   {\interlinepenalty \@M
1168    \normalfont\partformat
1169    \parttitleformat{#1}\par}%
1170   \postparthook}
```

`\postparthook` Hook after part heading

```
1171 \def\postparthook{\vfil\newpage
1172             \if@twoside
1173             \if@openright
1174             \null
1175             \thispagestyle{empty}%
1176             \newpage
1177             \fi
1178             \fi
1179             \if@tempswa
1180             \twocolumn
1181             \fi}
```

`\bookappendix` Switch to appendices in book

```
1182 \newcommand\bookappendix{\par
1183   \setcounter{table}{0}%
1184   \setcounter{figure}{0}%
1185   \zeroextracounters
1186   \par
1187   \gdef\theHchapter{\Alph {chapter}}%
1188   \xdef\Hy@chapapp{\Hy@appendixstring}%
1189   \setcounter{chapter}{0}%
1190   \setcounter{section}{0}%
1191   \gdef\@chapapp{\appendixname}%
1192   \gdef\thechapter{\@Alph\c@chapter}%
1193   \def\@write@jmlr@import{\@write@jmlr@apdimport}%
1194   \csname appendixmore\endcsname
1195 }
```

Define commands to switch between book/article modes

`\jmlrbookcommands` Switch to book commands

```
1196 \newcommand*\jmlrbookcommands{%
1197   \let\part\bookpart
1198   \let\chapter\bookchapter
1199   \let\appendix\bookappendix
1200   \let\tableofcontents\booktableofcontents
1201   \def\thesection{\thechapter.\arabic{section}}%
1202 }
```

`\jmlrarticlecommands` Switch to article commands

```
1203 \newcommand*\jmlrarticlecommands{%
1204   \let\part\artpart
1205   \let\chapter\artchapter
1206   \let\appendix\artappendix
1207   \let\tableofcontents\arttableofcontents
1208   \def\thesection{\arabic{section}}%
1209 }
```

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

jmlr@check@packages

```

1210 \newcommand*{\@jmlr@check@packages}{%
1211   \@ifpackageloaded{epsfig}{%
1212     \ClassError{jmlr}{Obsolete package ‘epsfig’ detected.
1213     \MessageBreak
1214     Please use \string\includegraphics\space to include images
1215     instead}}}{}%
1216   \@ifpackageloaded{psfig}{%
1217     \ClassError{jmlr}{Obsolete package ‘psfig’ detected.
1218     \MessageBreak
1219     Please use \string\includegraphics\space to include images
1220     instead}}}{}%
1221   \@ifpackageloaded{subfig}{%
1222     \ClassError{jmlr}{Package ‘subfig’ detected.\MessageBreak
1223     This will cause a conflict if the article is incorporated
1224     \MessageBreak
1225     into a book using jmlbook.cls.
1226     \MessageBreak
1227     Please use \string\subfigure\space and
1228     \string\subtable\space instead}}}{}%
1229   \@ifpackageloaded{theorem}{%
1230     \ClassError{jmlr}{Package ‘theorem’ detected.\MessageBreak
1231     This can cause a conflict with other packages used by jmlr}}}{}%
1232   \@ifpackageloaded{ntheorem}{%
1233     \ClassError{jmlr}{Package ‘ntheorem’ detected.\MessageBreak
1234     This can cause a conflict with other packages used by jmlr}}}{}%
1235   \@ifpackageloaded{amsthm}{%
1236     \ClassError{jmlr}{Package ‘amsthm’ detected.\MessageBreak
1237     This package conflicts with the jmlr class}}}{}%
1238   \@ifpackageloaded{pdfpages}{Package ‘pdfpages’ detected.\MessageBreak
1239   This can cause a problem for jmlrbook.}}}{}%
1240   \@ifpackageloaded{geometry}{Package ‘geometry’ detected.\MessageBreak
1241   This can cause a problem for jmlrbook.}}}{}%
1242   \@ifpackageloaded{tabularx}{%
1243     \ClassError{jmlr}{Package ‘tabularx’ detected.\MessageBreak
1244     This will break footnote links.}}}{}%
1245 }
1246 \AtBeginDocument{%
1247 \@jmlr@check@packages
1248 \let\@jmlr@check@packages\relax
1249 }

```

ppressPackageChecks 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.)

```

1250 \newcommand*{\jmlrSuppressPackageChecks}{%
1251   \let\@jmlr@check@packages\relax

```



```
1252 }
```

Discourage authors from using obsolete commands:

```
\obsoletefontcs
```

```
1253 \DeclareRobustCommand*\obsoletefontcs}[1]{%
1254   \ClassWarning{jmlr}{Obsolete command
1255     \expandafter\string\csname#1\endcsname\space detected}%
1256   \csname #1 \endcsname
1257 }
```

```
\bf
```

```
1258 \renewcommand*\bf}{%
1259   \obsoletefontcs{bf}%
1260 }
```

```
\it
```

```
1261 \renewcommand*\it}{%
1262   \obsoletefontcs{it}%
1263 }
```

```
\sc
```

```
1264 \renewcommand*\sc}{%
1265   \obsoletefontcs{sc}%
1266 }
```

```
\rm
```

```
1267 \renewcommand*\rm}{%
1268   \obsoletefontcs{rm}%
1269 }
```

```
\sf
```

```
1270 \renewcommand*\sf}{%
1271   \obsoletefontcs{sf}%
1272 }
```

```
\tt
```

```
1273 \renewcommand*\tt}{%
1274   \obsoletefontcs{tt}%
1275 }
```

## 4.2 jmlrbook.cls Code

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

```
1276 \NeedsTeXFormat{LaTeX2e}
```

Declare class:

```
1277 \ProvidesClass{jmlrbook}[2014/10/15 v1.20 (NLCT) JMLR Book Style]
```

Need xkeyval package to have key=value class options

```
1278 \RequirePackage{xkeyval}
```

Requires double spacing for the title page

```
1279 \RequirePackage{setspace}
```

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

`\jmlrprefacefile`

```
1280 \newcommand*\jmlrprefacepath{}
```

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

```
1281 \IfFileExists{currfile.sty}%
```

```
1282 {
```

```
1283   \RequirePackage{currfile}
```

```
1284   \renewcommand*\jmlrprefacepath{\currfilepath}
```

```
1285 }%
```

```
1286 {%
```

```
1287   \RequirePackage{fink}
```

```
1288   \ifdef\finkpath
```

```
1289   {%
```

```
1290     \renewcommand*\jmlrprefacepath{\finkpath}%
```

```
1291   }
```

```
1292   {%
```

fink version too old.

```
1293   \ClassWarning{jmlrbook}{Install 'currfile' package or update
```

```
1294     'fink' package}
```

```
1295   }
```

```
1296 }
```

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

```
1297 \providecommand*\jmlrprehyperref{}
```

`\ifgrayscale` Determine whether to select color or grayscale

```
1298 \newif\ifgrayscale
```

```
1299 \grayscalefalse
```

`draft`

```
1300 \DeclareOptionX{draft}{\setlength\overfullrule{5pt}}
```

`final`

```
1301 \DeclareOptionX{final}{\setlength\overfullrule{0pt}}
```

`color`

```
1302 \DeclareOptionX{color}{\grayscalefalse}
```

`gray`

```
1303 \DeclareOptionX{gray}{\grayscaletrue}
```

Pass letterpaper and 7x10 to jmlr.

letterpaper

```
1304 \DeclareOptionX{letterpaper}{\PassOptionsToClass{\CurrentOption}{jmlr}}
```

7x10

```
1305 \DeclareOptionX{7x10}{\PassOptionsToClass{\CurrentOption}{jmlr}}
```

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

html

```
1306 \DeclareOptionX{html}{\PassOptionsToClass{\CurrentOption}{jmlr}}
```

nohtml

```
1307 \DeclareOptionX{nohtml}{\PassOptionsToClass{\CurrentOption}{jmlr}}
```

\jmlrprefaceheader

```
1308 \newcommand*{\jmlrprefaceheader}{%  
1309   \phantomsection  
1310   \chapter*{\prefacename}%  
1311   \addcontentsline{toc}{chapter}{\prefacename}%  
1312   \markboth{\prefacename}{\prefacename}%  
1313 }
```

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

wcp

```
1314 \DeclareOptionX{wcp}{%  
1315   \PassOptionsToClass{\CurrentOption}{jmlr}%  
1316   \renewcommand*{\jmlrprefaceheader}{\chapter*{\prefacename}}  
1317 }
```

nowcp

```
1318 \DeclareOptionX{nowcp}{%  
1319   \PassOptionsToClass{\CurrentOption}{jmlr}%  
1320   \renewcommand*{\jmlrprefaceheader}{\chapter{\prefacename}}  
1321 }
```

Pass tablecaptiontop and tablecaptionbottom options to jmlr.

tablecaptiontop

```
1322 \DeclareOptionX{tablecaptiontop}{\PassOptionsToClass{\CurrentOption}{jmlr}}
```

tablecaptionbottom

```
1323 \DeclareOptionX{tablecaptionbottom}{\PassOptionsToClass{\CurrentOption}{jmlr}}
```

Pass font size commands to jmlr

10pt

```
1324 \DeclareOptionX{10pt}{\PassOptionsToClass{\CurrentOption}{jmlr}}
```

11pt

```
1325 \DeclareOptionX{11pt}{\PassOptionsToClass{\CurrentOption}{jmlr}}
```

12pt

```
1326 \DeclareOptionX{12pt}{\PassOptionsToClass{\CurrentOption}{jmlr}}
```

pdfxa

```
1327 \define@boolkey{jmlrbook.cls}[jmlr]{pdfxa}[true]{}
```

```
1328 \jmlrpdfxafalse
```

### Process options

```
1329 \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.

```
1330 \@ifundefined{jmlrgrayscale}{}%
```

```
1331 {%
```

```
1332   \ifnum\jmlrgrayscale=0\relax
```

```
1333     \grayscalefalse
```

```
1334   \else
```

```
1335     \grayscaletrue
```

```
1336   \fi
```

```
1337 }
```

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

```
1338 \ifgrayscale
```

```
1339   \newcommand*{\jmlrwritepdfinfo}{}%
```

```
1340     \protected@write\@auxout{}{\string\jmlrbook@info{\xmpAuthor}{\xmpTitle}}%
```

```
1341   }
```

```
1342   \ifjmlrpdfxa
```

```
1343     \def\convertDate{\getYear}
```

```
1344     {\catcode'\D=12
```

```
1345     \gdef\getYear D:#1#2#3#4{\edef\xYear{#1#2#3#4}\getMonth}
```

```
1346     }
```

```
1347     \def\getMonth#1#2{\edef\xMonth{#1#2}\getDay}
```

```
1348     \def\getDay#1#2{\edef\xDay{#1#2}\getHour}
```

```
1349     \def\getHour#1#2{\edef\xHour{#1#2}\getMin}
```

```
1350     \def\getMin#1#2{\edef\xMin{#1#2}\getSec}
```

```
1351     \def\getSec#1#2{\edef\xSec{#1#2}\getTZh}
```

```
1352     {%
```

```
1353       \catcode'\Z=12
```

```
1354       \gdef\tmpz{Z}
```

```
1355     }
```

```
1356     \def\hash{\expandafter@gobble\string\#}%
```

```
1357     \def\amp{\expandafter@gobble\string\&}%
```

```
1358     \def\xmpAmp{\amp\hash x0026;}%
```

```
1359     \def\sep{</rdf:li><rdf:li>}
```

```

1360 \def\TextCopyright{\amp\hash x00A9;}
1361 \def\Title#1{\gdef\xmpTitle{#1}}
1362 \def\Author#1{\gdef\xmpAuthor{#1}}
1363 \def\Keywords#1{\gdef\xmpKeywords{#1}}
1364 \let\xmpKeywords\@empty
1365 \let\xmpSubject\xmpKeywords
1366 \def\Creator#1{\gdef\xmpCreator{#1}}
1367 \def\xmpCreator{\@pdfcreator}
1368 \def\Producer#1{\gdef\xmpProducer{#1}}
1369 \def\xmpProducer{pdfTeX}
1370 \def\Volume#1{\gdef\xmpVolume{#1}}
1371 \let\xmpVolume\@empty
1372 \def\Issue#1{\gdef\xmpIssue{#1}}
1373 \let\xmpIssue\@empty
1374 \def\CoverDisplayDate#1{\gdef\xmpCoverDisplayDate{#1}}
1375 \let\xmpCoverDisplayDate\@empty
1376 \def\CoverDate#1{\gdef\xmpCoverDate{#1}}
1377 \let\xmpCoverDate\@empty
1378 \def\Copyright#1{\gdef\xmpCopyright{#1}}
1379 \let\xmpCopyright\@empty
1380 \def\Doi#1{\gdef\xmpDoi{#1}}
1381 \let\xmpDoi\@empty
1382 \def\Lastpage#1{\gdef\xmpLastpage{#1}}
1383 \let\xmpLastpage\@empty
1384 \def\Firstpage#1{\gdef\xmpFirstpage{#1}}
1385 \let\xmpFirstpage\@empty
1386 \def\Journaltitle#1{\gdef\xmpJournaltitle{#1}}
1387 \let\xmpJournaltitle\@empty
1388 \def\Journalnumber#1{\gdef\xmpJournalnumber{#1}}
1389 \let\xmpJournalnumber\@empty
1390 \def\Org#1{\gdef\xmpOrg{#1}}
1391 \let\xmpOrg\@empty
1392 \def\CreatorTool#1{\gdef\xmpCreatorTool{#1}}
1393 \def\xmpCreatorTool{\xmpProducer}
1394 \def\AuthoritativeDomain#1{\gdef\xmpAuthoritativeDomain{#1}}
1395 \let\xmpAuthoritativeDomain\@empty
1396 \def\findUUID#1{\edef\tmpstring{\pdfmdfivesum{#1}}
1397 \expandafter\eightofnine\tmpstring\end}
1398 \def\eightofnine#1#2#3#4#5#6#7#8#9\end{%
1399 \xdef\eightchars{#1#2#3#4#5#6#7#8}
1400 \fouroffive#9\end}
1401 \def\fouroffive#1#2#3#4#5\end{\xdef\ffourchars{#1#2#3#4}
1402 \sfouroffive#5\end}
1403 \def\sfouroffive#1#2#3#4#5\end{\xdef\sfourchars{#1#2#3#4}
1404 \tfouroffive#5\end}
1405 \def\tfouroffive#1#2#3#4#5\end{\xdef\tfourchars{#1#2#3#4}
1406 \xdef\laststring{#5}}
1407 \def\uuid{\eightchars-%
1408 \ffourchars-%

```

```

1409         \sfourchars-%
1410         \tfourchars-%
1411         \laststring}

```

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

```

1412 \def\getTZh#1{%
1413   \def\TZprefix{#1}%
1414   \ifx\TZprefix\tmpz
1415     \def\xTZsign{+}%
1416     \def\xTZh{00}%
1417     \def\xTZm{00}%
1418     \let\getTZnext\doConvDate
1419   \else
1420     \let\xTZsign\TZprefix
1421     \let\getTZnext\getTZhm
1422   \fi
1423   \getTZnext
1424 }

```

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

```

1425 \def\getTZhm#1#2'#3#4' {%
1426   \edef\xTZh{#1#2}%
1427   \edef\xTZm{#3#4}%
1428   \doConvDate
1429 }

```

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

```

1430 \def\doConvDate{%
1431   \edef\convDate{\xYear-\xMonth-\xDay
1432     T\xHour:\xMin:\xSec\xTZsign\xTZh:\xTZm}%
1433 }

```

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

```

1434 \newcommand{\@pre@hyperref}{%
1435   \IfFileExists{FOGRA39L.icc}%
1436   {%
1437     \pdfminorversion=3
1438     \pdfpageattr{/MediaBox[0 0 595 793]
1439       /BleedBox[0 0 595 793]
1440       /TrimBox[25 20 570 773]}%
1441     \findUUID{\jobname.pdf}%
1442     \edef\xmpdocid{\uuid}%
1443     \findUUID{\pdfcreationdate}%
1444     \edef\xmpinstid{\uuid}%
1445     \InputIfFileExists{\jobname.xmpdata}{-}{-}%
1446     \RequirePackage{xmpincl}%
1447     \expandafter\convertDate\pdfcreationdate
1448     \def\@pctchar{\expandafter\@gobble\string\%}

```

```

1449     \def\@bchar{\expandafter\@gobble\string\}
1450     \immediate\pdfobj stream attr{/N 4} file{FOGRA39L.icc}
1451     \edef\OBJ@CVR{\the\pdfastobj}
1452     \pdfcatalog{/OutputIntents [ <<
1453         /Type/OutputIntent
1454         /S/GTS_PDFX
1455         /OutputCondition (FOGRA39)
1456         /OutputConditionIdentifier (FOGRA39 \@bchar(ISO Coated v2
1457             300\@pctchar\space \@bchar(ECI\@bchar)\@bchar))
1458         /DestOutputProfile \OBJ@CVR\space 0 R
1459         /RegistryName(http://www.color.org)
1460     >> ]}
1461     \input glyphtounicode.tex
1462     \input glyphtounicode-cmr.tex
1463     \pdfgentounicode=1
1464     \RequirePackage[draft,pdftex,pdfpagemode=UseNone,bookmarks=false]{hyperref}%
1465     }%
1466     {%
1467         \ClassError{jmlrbook}{Can't find 'FOGRA39L.icc'}%
1468         {Download ISOcoated\string_v2\string_330\string_bas.icc from
1469         http://www.colormangement.org/en/isoprofile.html
1470         Rename it FOGRA39L.icc and put it in the pdfx folder}%
1471     }%
1472 }
1473 \renewcommand*{\jmlrwritepdfinfo}{%
1474     \begingroup
1475         \let\&=\xmpAmp
1476         \IfFileExists{pdfx-1a.xmp}{%
1477             \pdfcompresslevel=0
1478             \immediate\pdfobj stream attr {/Type /Metadata /Subtype /XML}
1479             file{pdfx-1a.xmpi}
1480             \pdfcatalog{/Metadata \the\pdfastobj\space 0 R}
1481         }%
1482     }%
1483 \endgroup
1484 \protected@write\@auxout{}{\string\jmlrbook@info{\xmpAuthor}{\xmpTitle}}%
1485 \pdfinfo{
1486     /Author(\xmpAuthor)%
1487     /Title(\xmpTitle)%
1488     /Creator(\xmpProducer)%
1489     /CreationDate(\convDate)%
1490     /ModDate(\convDate)%
1491     /Producer(\xmpProducer)%
1492     /Trapped /False
1493     /GTS_PDFXVersion (PDF/X-1:2001)%
1494     /GTS_PDFXConformance (PDF/X-1a:2001)%
1495 }%
1496 }
1497 \fi

```

```

1498 \else
1499 \newcommand*\jmlrwritepdfinfo{}
1500 \fi

```

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

```
1501 \newcommand*\jmlrbook@info}[2] {}
```

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

```
1502 \newcommand*\jmlrbook@location}[1] {}
```

\@post@hyperref

```

1503 \newcommand*\@post@hyperref}{%
1504 \let\@org@c@lenddoca\c@lenddoca
1505 \let\c@lenddoca\undefined
1506 }

```

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

```

1507 \let\@org@LoadClass\LoadClass
1508 \def\LoadClass#1{\let\LoadClass\@org@LoadClass\@org@LoadClass{jmlr}}
1509 \@org@LoadClass{combine}
1510 \let\c@lenddoca\@org@c@lenddoca

```

Requires combnat to work with natbib:

```
1511 \RequirePackage{combnat}
```

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

```

1512 \renewcommand\c@laNAT@parse[1]{%
1513 \let\protect=\@unexpandable@protect\let~\relax
1514 \let\active@prefix=\@gobble
1515 \xdef\NAT@temp{\csname b@#1\@extra@b@citeb\endcsname}}%
1516 \expandafter\NAT@split\NAT@temp?????@%
1517 \expandafter\NAT@parse@date\NAT@date?????@%
1518 \ifciteindex\NAT@index\fi}
1519
1520 \renewcommand\c@lbNAT@parse[1]{%
1521 \let\protect=\@unexpandable@protect\let~\relax
1522 \let\active@prefix=\@gobble
1523 \xdef\NAT@temp{B?\jobname?@#1\@extra@b@citeb\endcsname}}%
1524 \expandafter\NAT@split\NAT@temp?????@%
1525 \expandafter\NAT@parse@date\NAT@date?????@%
1526 \ifciteindex\NAT@index\fi}

```

Switch on two-side mode

```
1527 \@twosidetrue
```

Start new chapters on the right hand page:

```

1528 \newif\if@openright
1529 \@openrighttrue
1530 \newif\if@mainmatter

```



Define commands that affect the formatting:

`\pagerule` Draw line across the text block.

```
1531 \newcommand*{\pagerule}[1][0pt]{\par\noindent
1532 \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.

```
1533 \ifjmlrhtml
1534 \newenvironment{preface}[1][preface]%
1535 {%
1536 \noindent\HCode{<h2>\prefacename</h2>}%
1537 }%
1538 {%
1539 }
1540 \else
1541 \newenvironment{preface}[1][preface]%
1542 {%
```

The preface should be in the front matter, so the chapter numbering should automatically be suppressed.

```
1543 \jmlrprefaceheader
1544 \protected@write\@mainauxout
1545 {}{\string\@prefacestart{\thepage}{\arabic{page}}}%
1546 \protected@write\@mainauxout{}{\string\@prefacefile{\jmlrprefacepath}{#1}}%
1547 }%
1548 {%
1549 \protected@write\@mainauxout{}{\string\@prefaceend{\thepage}}%
1550 }
1551 \fi
```

`\prefacename`

```
1552 \newcommand*{\prefacename}{Preface}
```

`\@prefacefile`

```
1553 \newcommand*{\@prefacefile}[2]{}
```

`\@prefacestart`

```
1554 \newcommand*{\@prefacestart}[2]{}
```

`\@prefaceend`

```
1555 \newcommand*{\@prefaceend}[1]{}
```

`\@prefaceeditor`

```
1556 \newcommand*{\@prefaceeditor}[1]{}
```

Cross-reference chapters:

```
1557 \newcommand*{\chapterrefname}{Chapter}
1558 \newcommand*{\chaptersrefname}{Chapters}
```

\chapterref

```
1559 \newcommand*{\chapterref}[1]{%
1560   \objectref{#1}{\chapterrefname}{\chaptersrefname}{-}{}}
```

Cross-referencing imported articles:

\articlepageref Page number of start of article

```
1561 \newcommand*{\articlepageref}[1]{%
1562   \pageref{#1jmlrstart}%
1563 }
```

\articlepagesref Page range of article

```
1564 \newcommand*{\articlepagesref}[1]{%
1565   \pageref{#1jmlrstart}--\pageref{#1jmlrend}%
1566 }
```

\@articlepagesref Page range of article for use within the article

```
1567 \newcommand*{\@articlepagesref}{%
1568   \pageref{jmlrstart}--\pageref{jmlrend}%
1569 }
```

\articletitleref Reference the short title of an imported article

```
1570 \newcommand*{\articletitleref}[1]{\nameref{#1jmlrstart}}
```

\articleauthorref Reference the authors of an imported article

```
1571 \newcommand*{\articleauthorref}[1]{%
1572   \@ifundefined{@jmlr@author@#1}%
1573   {%
1574     \ClassWarning{jmlrbook}{Label ‘#1’ undefined}%
1575   }%
1576   {%
1577     \@nameuse{@jmlr@author@#1}%
1578   }%
1579 }
```

\jmlrtitlehook Extra title information

```
1580 \renewcommand*\jmlrtitlehook{%
1581   \hypersetup{pdftitle={\@shorttitle}}%
1582   \def\xmpTitle{\@shorttitle}%
1583   \let\jmlrtitlehook\relax
1584 }
1585 \providecommand*\xmpTitle{\@title}%
```

`\jmlrauthorhook`

```
1586 \renewcommand*\jmlrauthorhook{%
1587   \ifx\sauthor\@empty
1588     \hypersetup{pdfauthor={\@author}}%
1589   \else
1590     \hypersetup{pdfauthor={\sauthor}}%
1591   \fi
1592   \def\xmpAuthor{\sauthor}%
1593   \let\jmlrauthorhook\relax
1594   \let\@shortauthor\@empty
1595 }
1596 \providecommand\xmpAuthor{\@author}%
```

`\subtitle`

```
1597 \newcommand*\@subtitle{}
1598 \newcommand*\subtitle}[1]{\renewcommand*\@subtitle{#1}}
```

`\volume`

```
1599 \newcommand*\@volume{\@jmlrvolume}
1600 \newcommand*\volume}[1]{%
1601   \renewcommand*\@volume{#1}%
1602   \ifjmlrpdfxa
1603     \let\xmpVolume\@volume
1604   \fi
1605 }
```

`\jmlrissue`

```
1606 \newcommand*\@issue{\@jmlrissue}
1607 \newcommand*\issue}[1]{%
1608   \renewcommand*\@issue{#1}%
1609   \ifjmlrpdfxa
1610     \let\xmpIssue\@issue
1611   \fi
1612 }
```

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

```
1613 \newcommand*\thejmlrworkshop{\@jmlrworkshop}
```

`\team`

```
1614 \newcommand*\@team{}
1615 \newcommand*\team}[1]{\renewcommand*\@team{#1}}
```

`\jmlrlocation`

```
1616 \newcommand*\@jmlrlocation{}
1617 \newcommand*\jmlrlocation}[1]{%
1618   \renewcommand*\@jmlrlocation{#1}%
1619   \protected@write\@auxout{}{\string\jmlrbook@location{#1}}%
1620 }
```

roductioneditorname

```
1621 \newcommand*{\@productioneditorname}{Production Editor}
```

\productioneditor

```
1622 \newcommand*{\@productioneditor}{}
1623 \newcommand*{\productioneditor}[1]{%
1624   \renewcommand*{\@productioneditor}{#1}%
1625   \renewcommand*{\@productioneditorname}{Production Editor}%
1626 }
```

\productioneditors

```
1627 \newcommand*{\productioneditors}[1]{%
1628   \renewcommand*{\@productioneditor}{#1}%
1629   \renewcommand*{\@productioneditorname}{Production Editors}%
1630 }
```

\logo Title page image

```
1631 \newcommand*{\@logo}{}
1632 \newcommand*{\logo}[2] []{%
1633   \ifjmlrhtml
1634     \def\@logo@tmp{#1}%
1635     \ifx\@logo@tmp\@empty
1636       \renewcommand*{\@logo}{#2}%
1637     \else
1638       \renewcommand*{\@logo}{\HCode{<a href="#1">}#2\HCode{</a>}}%
1639     \fi
1640   \else
1641     \renewcommand*{\@logo}{#2}%
1642   \fi
1643 }
```

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

```
1644 \renewcommand*{\booklinebreak}[1][4]{\linebreak[#1]}
```

Set article title

```
1645 \def\c@l@b@maketitle{\jmlrmaketitle}
```

The book's title:

\maintitle

```
1646 \newcommand*{\maintitle}{}

```

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

\SetTitleElement

```
1647 \newcommand*{\SetTitleElement}[3]{%
1648   {%
1649     \expandafter\ifx\csname @#1\endcsname\@empty
1650     \else

```

```

1651     #2\csname @#1\endcsname#3%
1652     \fi
1653   }%
1654 }

```

`\IfTitleElement` Determine if the given element has been set:

```

1655 \newcommand{\IfTitleElement}[3]{%
1656   \expandafter\ifx\csname @#1\endcsname\@empty
1657     #2%
1658   \else
1659     #3%
1660   \fi
1661 }

```

`\titlebody`

```

1662 \newcommand{\titlebody}{%
1663   \SetTitleElement{title}{\maintitlefont}{\postmaintitle}%
1664   \SetTitleElement{volume}{\mainvolume font}{\postmainvolume}%
1665   \SetTitleElement{subtitle}{\mainsubtitlefont}{\postmainsubtitle}%
1666   \SetTitleElement{logo}{\mainlogo font}{\postmainlogo}%
1667   \SetTitleElement{team}{\mainteamfont}{\postmainteam}%
1668   \SetTitleElement{author}{\mainauthorfont}{\postmainauthor}%
1669   \SetTitleElement{productioneditor}{\mainproductioneditorfont}%
1670     {\postmainproductioneditor}%
1671 }

```

`\c@lamaketitle`

```

1672 \ifjmlrhtml
1673   \renewcommand{\c@lamaketitle}{%
1674     \HCode{<table cellpadding="2" cellspacing="2" border="0" width="100\%">%
1675       \HCode{<tbody><tr><td valign="top">%
1676         \HCode{<h1>}}%
1677       \@title\newline
1678       \ifx\@jmlrvolume\@empty
1679         \ifx\@volume\@empty
1680           \else
1681             Volume \@volume
1682           \ifx\@subtitle\@empty\else: \fi
1683         \fi
1684       \else
1685         Volume \@jmlrvolume
1686         \ifx\@subtitle\@empty\else: \fi
1687       \fi
1688       \@subtitle
1689       \HCode{</h1>}}%
1690       \newline
1691       \textbf{Editors: \@author}
1692       \HCode{</td><td valign="top">}}%
1693       \@logo

```

```

1694 \HCode{</td></tr></tbody></table>}%
1695 \let\maintitle\@title
1696 }
1697 \else
1698 \renewcommand{\c@lamaketitle}{%
1699 \pagenumbering{alph}%
1700 \pagestyle{empty}%
1701 \begin{titlepage}%
1702 \let\footnotesize\small
1703 \let\footnoterule\relax
1704 \let\footnote\thanks
1705 \titlebody
1706 \par
1707 \@thanks
1708 \end{titlepage}%
1709 \setcounter{footnote}{0}%
1710 \let\maintitle\@title
1711 \c@lmtitleempty
1712 }
1713 \fi

```

\maintitlefont

```

1714 \renewcommand{\maintitlefont}{%
1715 \null\vskip15pt\relax\par
1716 \flushleft\Huge\bfseries\noindent}

```

\postmaintitle

```

1717 \renewcommand{\postmaintitle}{%
1718 \par\relax
1719 }

```

\mainvolumefont

```

1720 \newcommand{\mainvolumefont}{%
1721 \flushleft\noindent\LARGE\bfseries Volume
1722 }

```

\postmainvolume

```

1723 \newcommand{\postmainvolume}{%
1724 \IfTitleElement{subtitle}{:}\par\relax
1725 }

```

\mainissuefont

```

1726 \newcommand{\mainissuefont}{%
1727 \flushleft\noindent\LARGE\bfseries Issue
1728 }

```

\postmainissue

```

1729 \newcommand{\postmainissue}{%
1730 \par\relax
1731 }

```

```

\mainsubtitlefont
1732 \newcommand{\mainsubtitlefont}{%
1733   \flushleft\LARGE\bfseries\noindent}

\postmainsubtitle
1734 \newcommand{\postmainsubtitle}{\par}

\mainlogofont
1735 \newcommand{\mainlogofont}{%
1736   \vfill
1737   \begin{center}}

\postmainlogo
1738 \newcommand{\postmainlogo}{\end{center}\vfill\par}

\mainteamfont
1739 \newcommand{\mainteamfont}{\flushleft\bfseries\Large\noindent}

\postmainteam
1740 \newcommand{\postmainteam}{\par}

\mainauthorfont
1741 \renewcommand{\mainauthorfont}{%
1742   \flushleft\Large\itshape\doublespacing\noindent}

\postmainauthor
1743 \renewcommand{\postmainauthor}{%
1744 \par}

productioneditorfont
1745 \newcommand{\mainproductioneditorfont}{%
1746   \flushleft\Large\noindent \@productioneditorname: \itshape}

mainproductioneditor
1747 \newcommand{\postmainproductioneditor}{\par}

\maindatefont
1748 \renewcommand{\maindatefont}{}

\postmaindate
1749 \renewcommand{\postmaindate}{}

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.
1750 \ifjmlrhtml
1751   \newenvironment{signoff}[2][The Editorial Team]{%

```

```

1752 \def\Editor##1{##1\par\vskip\baselineskip\noindent\ignorespaces}%
1753 \def\@editorialteam{#1}%
1754 \def\@signoffdate{#2}%
1755 \par\vskip\baselineskip\noindent
1756 \ifx\@signoffdate\@empty
1757 \else
1758 \emph{\@signoffdate}\nopagebreak\par
1759 \nopagebreak\vskip\baselineskip\noindent
1760 \fi
1761 \ifx\@editorialteam\@empty
1762 \else
1763 \@editorialteam:\nopagebreak\par\nopagebreak\vskip\baselineskip
1764 \fi
1765 \nopagebreak\noindent\ignorespaces
1766 }%
1767 {%
1768 }%
1769 \else
1770 \newenvironment{signoff}[2][The Editorial Team]{%
1771 \def\Editor##1{%
1772 \protected@write\@mainauxout{\string\@prefaceeditor{##1}}%
1773 \begin{tabular}{@{}l@{}}%
1774 ##1%
1775 \end{tabular}}%
1776 \par\vskip\baselineskip\noindent\ignorespaces
1777 }%
1778 \def\@editorialteam{#1}%
1779 \def\@signoffdate{#2}%
1780 \par\vskip\baselineskip\noindent
1781 \ifx\@signoffdate\@empty
1782 \else
1783 \emph{\@signoffdate}\par
1784 \vskip\baselineskip\noindent
1785 \fi
1786 \ifx\@editorialteam\@empty
1787 \else
1788 \@editorialteam:\par\vskip\baselineskip
1789 \fi
1790 \noindent\ignorespaces
1791 }%
1792 {%
1793 }
1794 \fi

```

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

```

1795 \newenvironment{authorsignoff}{%
1796 \def\Author##1{\begin{tabular}{@{}p{\linewidth}@{}}%
1797 ##1%

```



```

1798   \end{tabular}%
1799   \par\vskip\baselineskip\noindent\ignorespaces
1800 }%
1801   \par\vskip\baselineskip\noindent\ignorespaces
1802 }{%
1803 }

```

`\zeroextracounters`    Reset counters at the start of each imported article

```

1804 \renewcommand{\zeroextracounters}{%
1805   \@ifundefined{c@theorem}{\setcounter{theorem}{0}}%
1806   \@ifundefined{c@algorithm}{\setcounter{algorithm}{0}}%
1807   \@ifundefined{c@algocf}{\setcounter{algocf}{0}}%
1808   \@ifundefined{c@example}{\setcounter{example}{0}}%
1809   \@ifundefined{c@definition}{\setcounter{definition}{0}}%
1810 }

```

`\contentsname`    Redefine title of the table of contents

```

1811 \renewcommand*{\contentsname}{Table of Contents}

```

`\theHalgorithm`

```

1812 \def\theHalgorithm{\theHchapter.\thealgorithm}

```

`\theHsection`

```

1813 \def\theHsection{\theHchapter.\thesection}
1814 \def\theHsubsection{\theHchapter.\thesubsection}
1815 \def\theHsubsubsection{\theHchapter.\thesubsubsection}
1816 \def\theHparagraph{\theHchapter.\theparagraph}

```

`\theHsubfigure`

```

1817 \def\theHsubfigure{\theHfigure.\arabic{subfigure}}
1818 \def\theHsubtable{\theHtable.\arabic{subtable}}

```

`\theHfootnote`

```

1819 \def\theHfootnote{\theHchapter.\alpha{footnote}}

```

`\theHtable`

```

1820 \def\theHtable{\theHchapter.\arabic{table}}

```

`\theHfigure`

```

1821 \def\theHfigure{\theHchapter.\arabic{figure}}

```

`\theHalgocf`

```

1822 \def\theHalgocf{\theHchapter.\thealgocf}

```

`\mailto`

```

1823 \renewcommand*{\mailto}[1]{%
1824   \href{mailto:#1}{\nolinkurl{#1}}%
1825 }

```

```
1826 \c@lhaschapterfalse
1827 \let\c@lthesecl\thesection
```

Make sure the hyperlinks work

```
doimportchapterHref
```

```
1828 \newcommand\doimportchapterHref{%
1829   \edef\@currentHref{chapter.\thechapter}%
1830 }
```

```
\toclevel@appendix Set the toc level for the main appendices
```

```
1831 \def\toclevel@appendix{-1}
```

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

```
\Xprefix
```

```
1832 \def\Xprefix{}
```

```
\Xref
```

```
1833 \DeclareRobustCommand\Xref{\@ifstar\@Xrefstar\T@Xref}%
```

```
\Xpageref
```

```
1834 \DeclareRobustCommand\Xpageref{%
1835   \@ifstar\@Xpagerefstar\T@Xpageref
1836 }%
```

```
\HyRef@StarSetXRef
```

```
1837 \def\HyRef@StarSetXRef#1{%
1838   \begingroup
1839     \Hy@safe@activestruel
1840     \edef\x{#1}%
1841     \@onelevel@sanitize\x
1842     \edef\x{\endgroup
1843       \noexpand\HyRef@@StarSetRef
1844         \expandafter\noexpand\csname r@\Xprefix\x\endcsname{\x}%
1845       }%
1846     \x
1847 }
1848 % \end{macrocode}
1849 %\end{macro}
1850 %
1851 %\begin{macro}{\@Xrefstar}
1852 % \begin{macrocode}
1853 \def\@Xrefstar#1{%
1854   \HyRef@StarSetXRef{#1}\@firstoffive
1855 }
```

```

\@Xpagerefstar
1856 \def\@Xpagerefstar#1{%
1857   \HyRef@StarSetXRef{#1}\@secondoffive
1858 }

\T@Xref
1859 \def\T@Xref#1{%
1860   \Hy@safe@activestrue
1861   \expandafter\@setXref\csname r@\Xprefix#1\endcsname\@firstoffive{#1}%
1862   \Hy@safe@activesfalse
1863 }%

\T@Xpageref
1864 \def\T@Xpageref#1{%
1865   \Hy@safe@activestrue
1866   \expandafter\@setXref\csname r@\Xprefix#1\endcsname\@secondoffive{#1}%
1867   \Hy@safe@activesfalse
1868 }%

\Xlabel
1869 \def\Xlabel#1{%
1870   \@bsphack
1871   \begingroup
1872     \@onelevel@sanitize\@currentlabelname
1873     \edef\@currentlabelname{%
1874       \expandafter\strip@period\@currentlabelname\relax.\relax\@@@
1875     }%
1876     \protected@write\@mainauxout{}{%
1877       \string\newlabel{\Xprefix#1}{\@currentlabel}{\thepage}%
1878       {\@currentlabelname}{\@currentHref}{}}%
1879     }%
1880   \endgroup
1881   \@esphack
1882 }
1883 \let\ltx@label\Xlabel

\@setXref
1884 \def\@setXref#1#2#3{% csname, extract group, refname
1885   \ifx#1\relax
1886     \protect\G@refundefinedtrue
1887     \nfss@text{\reset@font\bfseries ??}%
1888     \@latex@warning{%
1889       Reference ‘#3’ on page \thepage \space undefined%
1890     }%
1891   \else
1892     \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
1893   \fi
1894 }

```

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

```
1895 \AtBeginDocument{%
1896   \renewcommand\@secondoffive[5]{#2}%
1897   \jmlrwritepdfinfo
1898   \let\jmlrwritepdfinfo\relax
1899 }
```

Need to write imported chapter label to main auxfile.

\@setimportlabel

```
1900 \def\@setimportlabel{%
1901   \let\@mainauxout\@auxout
1902   \let\HRlabel\label
1903 }
1904 \AtBeginDocument{\@jmlrbegindoc}
```

\@jmlrbegindoc

```
1905 \newcommand*\@jmlrbegindoc{
1906   \@setimportlabel
1907   \gdef\@setimportlabel{\let\ref\Xref \let\pageref\Xpageref}%
1908   \let\ReadBookmarks\relax
```

Patch to work with auxhook if loaded

```
1909   \ifundefined{@beginmainauxhook}{-}{\@beginmainauxhook}%
1910 }
```

Imported papers modify \InputIfFileExists so save original definition.

```
1911 \let\@org@InputIfFileExists\InputIfFileExists
```

jmlrpapers

```
1912 \newenvironment{jmlrpapers}{%
1913 \def\@begindocumenthook{%
1914   \@jmlrbegindoc
1915   \let\bibcite\c@lbNATbibcite
1916 }
1917 \def\@enddocumenthook{%
1918   \@jmlrenddoc
1919   \let\bibcite\c@lbNAT@testdef
1920 }
1921 \begin{papers}[]

1922 \if@twocolumn
1923   \def\@jmlr@restore{\twocolumn}%
1924 \else
1925   \def\@jmlr@restore{\onecolumn}%
1926 \fi
1927 \jmlrarticlecommands
```

```

1928 \let\importpubpaper\@importpubpaper
1929 \let\importpaper\@importpaper
1930 \let\importarticle\@importarticle
1931 \let\label\Xlabel
1932 \let\ref\Xref
1933 \pagestyle{article}%
1934 }{%
1935 \@jmlr@restore
1936 \end{papers}
1937 }

```

\addtomaincontents

```

1938 \newcommand{\addtomaincontents}[2]{%
1939 \protected@write\@mainauxout{\let\label\@gobble\let\index\@gobble
1940 \let\glossary\@gobble}{\string\@writefile{#1}{#2}}%
1941 }

```

\@write@author

```

1942 \newcommand*\@write@author[2]{%
1943 \def\@jmlr@authors@sep{ and }%
1944 \protected@write\@mainauxout{}{%
1945 \string\@new@articleauthor{#1}{#2}%
1946 }%
1947 }

```

\@new@articleauthor

```

1948 \newcommand*\@new@articleauthor[2]{%
1949 \expandafter\gdef\csname @jmlr@author@#1\endcsname{%
1950 \hyperref[#1jmlrstart]{#2}}%
1951 }

```

\@write@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.

```

1952 \newcommand*\@write@jmlr@import[3]{%
1953 \protected@write\@mainauxout{}{\string\@jmlr@import{#1}{#2}{#3}}%
1954 }

```

\@jmlr@import

$\LaTeX$  should ignore \@jmlr@import as it's only needed for makejmlrbook:

```

1955 \newcommand*\@jmlr@import[3]{}

```

\@write@jmlr@apdimport

As above but for files imported in the appendix.

```

1956 \newcommand*\@write@jmlr@apdimport[3]{%
1957 \protected@write\@mainauxout{}{\string\@jmlr@apdimport{#1}{#2}{#3}}%
1958 }

```

\@jmlr@apdimport

As above but for files imported in the appendix.  $\LaTeX$  should ignore \@jmlr@apdimport as it's only needed for makejmlrbookgui:

```

1959 \newcommand*\@jmlr@apdimport[3]{}

```

```

\@write@jmlr@import  Initialise to \@write@jmlr@import and switch to \@write@jmlr@apdimport
                      in the appendices.
1960 \def\@write@jmlr@import{\@write@jmlr@import}

jmlrpremaketitlehook  Redefine \jmlrpremaketitlehook
1961 \def\jmlrpremaketitlehook{%
1962   \cleardoublepage
1963   \phantomsection
1964   \let\@currentlabelname\@shorttitle

1965   \refstepcounter{chapter}%
1966 }%

\jmlrimporthook  Hook just before document is imported.
1967 \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.
1968 \newcommand*\@importpubpaper[4][\@importdir\@importfile]{%
1969   \bgroup
1970   \def\@importdir{#2}/%
1971   \def\@importfile{#3}%
1972   \@write@jmlr@import{#1}{#2}{#3}%
1973   \def\@extra@b@citeb{#1}%
1974   \def\@extra@b@info{#1}%
1975   \jmlrpages{#4}%
1976   \graphicspath{\@importdir}%
1977   \def\jmlrmaketitlehook{%

1978     \label{}%
1979     \def\titlebreak{ }%
1980     \addtomaincontents{toc}%

1981     {%
1982       \protect\contentsline{papertitle}{\@title}{\thepage}%
1983     }{page.\thepage}}%
1984     \pdfbookmark{\@shorttitle}{chapter.\theHchapter}%
1985     \def\@jmlr@authors@sep{ \& }%

1986     \tocchapterpubauthor{\@jmlr@authors}%
1987     {%
1988       \@jmlrabbbrvproceedings
1989       \ifx\@jmlrvolume\@empty
1990         \ifx\@jmlrpages\@empty\else\space\fi

```

```

1991     \else
1992         \space\@jmlrvolume
1993         \ifx\@jmlrissue\@empty
1994         \else
1995             (\@jmlrissue)%
1996         \fi
1997         \ifx\@jmlrpages\@empty\else:\fi
1998     \fi
1999     \ifx\@jmlrpages\@empty
2000     \else
2001         \@jmlrpages
2002         \ifx\@jmlryear\@empty\else,\fi
2003     \fi
2004     \space\@jmlryear
2005 }%

2006     \@write@author{#1}{\@jmlr@authors}%
2007 }%
2008 \def\InputIfFileExists##1##2##3{%
2009     \IfFileExists{##1}{%
2010         \@org@InputIfFileExists{##1}{##2}{##3}%
2011     }%
2012     {%
2013         \@org@InputIfFileExists{\@importdir##1}{##2}{##3}%
2014     }%
2015 }%
2016 \def\Xprefix{#1}%
2017 \jmlrimporthook
2018 \import{\@importdir\@importfile}%
2019 \def\Xprefix{}%
2020 \egroup
2021 \gdef\@shortauthor{}%
2022 \gdef\@shorttitle{}%
2023 \gdef\@firstauthor{}%
2024 \gdef\@jmlr@authors{\@jmlrauthors}%
2025 \gdef\@jmlrauthors{}%
2026 \gdef\@firstsurname{}%
2027 }
2028 \newcommand{\importpubpaper}[4][[]]{%
2029     \ClassError{jmlrbook}{\string\importpubpaper\space
2030 not permitted outside ‘jmlrpapers’ environment}{}%
2031 }

```

`\importpaper` Like `\importpubpaper` but sets the pages to the page-range for this book.

```

2032 \newcommand{\@importpaper}[3][\@importdir\@importfile]{%
2033     \bgroup
2034     \def\@importdir{#2/}%
2035     \def\@importfile{#3}%
2036     \@write@jmlr@import{#1}{#2}{#3}%

```

```

2037 \def\@extra@b@citeb{#1}%
2038 \def\@extra@b@info{#1}%
2039 \jmlrpages{\protect\@articlepagesref}%
2040 \graphicspath{\@importdir}%
2041 \def\jmlrmaketitlehook{%

2042     \label{}}%
2043     \def\titlebreak{ }%
2044     \addtomaincontents{toc}%

2045     {%
2046         \protect\contentsline{papertitle}{\@title}{\thepage}%
2047     {page.\thepage}}%
2048     \pdfbookmark{\@shorttitle}{chapter.\theHchapter}%
2049     \def\@jmlr@authors@sep{ \& }%

2050     \tocchapterpubauthor{\@jmlr@authors}%
2051     {%
2052         \@jmlrabbvrproceedings
2053         \ifx\@jmlrvolume\@empty
2054             \space
2055         \else
2056             \space\@jmlrvolume
2057             \ifx\@jmlrissue\@empty
2058                 \else
2059                     (\@jmlrissue)%
2060             \fi
2061             :%
2062         \fi
2063         \protect\articlepagesref{#1}%
2064         \ifx\@jmlryear\@empty\else,\fi
2065         \space\@jmlryear
2066     }%

2067     \@write@author{#1}{\@jmlr@authors}%
2068 }%
2069 \def\InputIfFileExists##1##2##3{%
2070     \IfFileExists{##1}{%
2071         \@org@InputIfFileExists{##1}{##2}{##3}%
2072     }%
2073     {%
2074         \@org@InputIfFileExists{\@importdir##1}{##2}{##3}%
2075     }%
2076 }%
2077 \def\Xprefix{#1}%

2078 \let\jmlrvolume@gobble

```

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).



```

2079 \let\jmlryear\@gobble
2080 \let\jmlrworkshop\@gobble
2081 \let\jmlrissue\@gobble
2082 \let\jmlrpages\@gobble
2083 \jmlrimporthook
2084 \import{\@importdir\@importfile}%
2085 \def\Xprefix{}%
2086 \egroup
2087 \gdef\@shortauthor{}%
2088 \gdef\@shorttitle{}%
2089 \gdef\@firstauthor{}%
2090 \gdef\@jmlr@authors{\@jmlrauthors}%
2091 \gdef\@jmlrauthors{}%
2092 \gdef\@firstsurname{}%
2093 }
2094
2095 \newcommand{\importpaper}[3] [] {%
2096 \ClassError{jmlrbook}{\string\importpaper\space
2097 not permitted outside ‘jmlrpapers’ environment}{}%
2098 }

```

`\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.

```

2099 \newcommand{\@importarticle}[3] [\@importdir\@importfile] {%
2100 \bgroup
2101 \def\@importdir{#2}/}%
2102 \def\@importfile{#3}%
2103 \@write@jmlr@import{#1}{#2}{#3}%
2104 \def\@extra@b@citeb{#1}%
2105 \def\@extra@b@info{#1}%
2106 \def\jmlrmaketitlehook{%
2107 \def\titlebreak{ }%
2108 \addtomaincontents{toc}%

2109
2110 \protect\contentsline{papertitle}{\@title}{\thepage}%
2111 {page.\thepage}}%

2112 \label{}%
2113 \pdfbookmark{\@shorttitle}{chapter.\theHchapter}%
2114 \def\@jmlr@authors@sep{ \& }%

2115 \tocchapterauthor{\@jmlr@authors}%
2116 \@write@author{#1}{\@jmlr@authors}%
2117 \jmlrpages{}%
2118 \jmlrvolume{}%

```

```

2119     \jmlryear{}%
2120     \jmlrsubmitted{}%
2121     \jmlrpublished{}%
2122     \jmlrproceedings{}{}%
2123 }%
2124 \graphicspath{{\@importdir}}%
2125 \def\InputIfFileExists##1##2##3{%
2126     \IfFileExists{##1}{%
2127         \@org@InputIfFileExists{##1}{##2}{##3}%
2128     }%
2129     {%
2130         \@org@InputIfFileExists{\@importdir##1}{##2}{##3}%
2131     }%
2132 }%
2133 \def\Xprefix{#1}%
2134 \jmlrimporthook

2135 \let\ps@jmlrtps\ps@articlet
2136 \import{\@importdir\@importfile}%
2137 \def\Xprefix{}%
2138 \egroup
2139 \gdef\@shortauthor{}%
2140 \gdef\@shorttitle{}%
2141 \gdef\@firstauthor{}%
2142 \gdef\@jmlr@authors{\@jmlrauthors}%
2143 \gdef\@jmlrauthors{}%
2144 \gdef\@firstsurname{}%
2145 }
2146 \newcommand{\importarticle}[3] []{%
2147     \ClassError{jmlrbook}{\string\importarticle\space
2148 not permitted outside ‘jmlrpapers’ environment}{}%
2149 }

```

`\addtocpart` Add a part to the TOC without printing anything in the text (but does a `\cleardoublepage`).

```

2150 \newcommand{\addtocpart}[1]{%
2151     \cleardoublepage
2152     \refstepcounter{tocpart}%
2153     \addtocontents{toc}{\protect\tocpart{#1}}%
2154     \pdfbookmark[-1]{#1}{part.\thetocpart}%
2155 }
2156 \newcounter{tocpart}

```

`\tocpart` Define the appearance of a part in the TOC.

```

2157 \newcommand{\tocpart}[1]{%
2158     \addpenalty{-\@highpenalty}%
2159     \vskip 1.0ex \@plus\p@
2160     \setlength\@tempdima{2.25em}%
2161     \begingroup

```

```

2162     \parindent \z@ \rightskip \@pnumwidth
2163     \parfillskip -\@pnumwidth
2164     \leavevmode \large\bfseries
2165     \advance\leftskip\@tempdima
2166     \hskip -\leftskip
2167     #1\nobreak\hfil \nobreak\hb@xt@\@pnumwidth{\hss \null}\par
2168     \penalty\@highpenalty
2169     \endgroup
2170 }

```

### Set up the layout of the chapter headings

```

2171 \setlength{\prechapterskip}{3em}
2172 \setlength{\postchapterskip}{20pt}

```

#### \chapternumberformat

```

2173 \renewcommand{\chapternumberformat}[1]{%
2174 \Large\bfseries \@chapapp\space#1\par
2175 }

```

#### \chaptertitleformat

```

2176 \renewcommand{\chaptertitleformat}[1]{%
2177 \Large\bfseries #1}

```

#### \chapterformat

```

2178 \renewcommand*{\chapterformat}{%
2179 \raggedright
2180 }

```

Set up the format of a part in the book (not a part in an article).

#### \preparthook

```

2181 \renewcommand{\preparthook}{\cleardoublepage\null\vfil}

```

#### \partnumberformat

```

2182 \renewcommand{\partnumberformat}[1]{%
2183 \Huge\bfseries \@partapp\nobreakspace#1\par\nobreak
2184 \vskip 20\p@
2185 }

```

#### \postparthook

```

2186 \def\postparthook{%
2187 \thispagestyle{empty}%
2188 \vfil\newpage
2189 \null
2190 \thispagestyle{empty}%
2191 \newpage
2192 }

```

`\@curparthead` The heading of the current part  
2193 `\newcommand{\@curparthead}{}`

`\parttitleformat`

```
2194 \renewcommand{\parttitleformat}[1]{#1%
2195   \gdef\@curparthead{\@partapp\space \thepart. #1}%
2196   \@mkboth{\@curparthead}{\@curparthead}%
2197 }
```

`\firstpageno` Change `\firstpageno` to do nothing as the page number will be determined by the book.

```
2198 \renewcommand{\firstpageno}[1]{}
```

`\tocchapterauthor` Add the author of the current chapter to the table of contents.

```
2199 \newcommand{\tocchapterauthor}[1]{%
2200   \addtomaincontents{toc}{\protect\contentsline{chapterauthor}{%
2201     #1}{-}{-}}%
2202 }
```

`\tocchapterpubauthor` Add the author of an imported republished 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.

```
2203 \newcommand{\tocchapterpubauthor}[2]{%
2204   \addtomaincontents{toc}{\protect\contentsline{chapterauthor}{%
2205     #1; #2.}{-}{-}}%
2206 }
```

Set up the formatting in the TOC

```
2207 \renewcommand*\@pnumwidth{2em}
```

`\l@part` Format for book parts

```
2208 \renewcommand*\l@part[2]{%
2209   \ifnum \c@tocdepth > \m@ne
2210     \addpenalty{-\@highpenalty}%
2211     \vskip 1.0em \@plus\p@
2212     %\setlength\@tempdima{5em}%
2213     \settowidth\@tempdima{\large\bfseries \@partapp\space MM}%
2214     \vbox{%
2215       \pagerule
2216       \begingroup
2217         \parindent \z@ \rightskip \@pnumwidth
2218         \parfillskip -\@pnumwidth
2219         \leavevmode \large\bfseries
2220         \advance\leftskip\@tempdima
2221         \hskip -\leftskip
2222         \renewcommand*\numberline[1]{\hb@xt@ \@tempdima
2223           {\@partapp\space ##1\hfil }}%
2224         #1\nobreak\hfil \nobreak\hb@xt@\@pnumwidth{\hss
```

```

2225         \normalfont\normalsize #2}\par
2226     \penalty\@highpenalty
2227 \endgroup
2228 \pagerule
2229 }%
2230 \fi}

```

\l@chapter

```

2231 \renewcommand{\l@chapter}[2]{%
2232     \ifnum\c@tocdepth>\m@ne
2233         \addpenalty{-\@highpenalty}%
2234         \vskip 1.0em \@plus \p@
2235         \setlength\@tempdima{2em}%
2236     \begingroup
2237         \parindent \z@
2238         \rightskip \@pnumwidth
2239         \parfillskip -\@pnumwidth
2240         \leavevmode \large \bfseries
2241         \advance \leftskip \@tempdima
2242         \hskip -\leftskip
2243         \renewcommand*\numberline[1]{\hb@xt@ \@tempdima
2244             {##1\hfil }}%
2245         #1\nobreak \hfil \nobreak \hb@xt@ \@pnumwidth {\hss
2246             \normalfont\normalsize #2}\par
2247         \penalty \@highpenalty
2248     \endgroup
2249 \fi
2250 }

```

\l@papertitle

```

2251 \newcommand*\l@papertitle}[2]{%
2252     \ifnum \c@tocdepth >\m@ne
2253         \addpenalty{-\@highpenalty}%
2254         \vskip 1.0em \@plus\p@
2255         \setlength\@tempdima{3em}%
2256     \begingroup
2257         \leavevmode \raggedright\itshape
2258         #1\nobreak\hfill \nobreak\hb@xt@\@pnumwidth{\hss
2259             \normalfont#2}%
2260         \par
2261         \penalty\@highpenalty
2262     \endgroup
2263 \fi
2264 }

```

\l@chapterauthor

```

2265 \newcommand*\l@chapterauthor[2]{%
2266     \ifnum \c@tocdepth >\m@ne

```

```

2267 \beginngroup
2268 \parindent \z@
2269 \rightskip \@pnumwidth
2270 \parfillskip -\@pnumwidth
2271 \leavevmode \raggedright
2272 \parbox{\linewidth-\@pnumwidth}{\raggedright#1\par}%
2273 \par
2274 \endgroup
2275 \fi}

```

\l@section

```

2276 \renewcommand*\l@section[2]{%
2277 \ifnum \c@tocdepth >\m@ne
2278 \addpenalty{-\@highpenalty}%
2279 \vskip 1.0em \@plus\p@
2280 \setlength\@tempdima{3em}%
2281 \beginngroup
2282 \parindent \z@ \rightskip \@pnumwidth
2283 \parfillskip -\@pnumwidth
2284 \leavevmode \normalsize\mdseries
2285 \advance\leftskip\@tempdima
2286 \hskip -\leftskip
2287 #1\nobreak\hfil \nobreak\hb@xt@\@pnumwidth{\hss #2}\par
2288 \penalty\@highpenalty
2289 \endgroup
2290 \fi}

```

\l@subsection

```

2291 \renewcommand*\l@subsection[2]{%
2292 \ifnum \c@tocdepth >\m@ne
2293 \addpenalty{-\@highpenalty}%
2294 \vskip 1.0em \@plus\p@
2295 \setlength\@tempdima{3.5em}%
2296 \beginngroup
2297 \parindent \z@ \rightskip \@pnumwidth
2298 \parfillskip -\@pnumwidth
2299 \leavevmode \normalsize\mdseries
2300 \advance\leftskip\@tempdima
2301 \hskip -\leftskip
2302 #1\nobreak\hfil \nobreak\hb@xt@\@pnumwidth{\hss #2}\par
2303 \penalty\@highpenalty
2304 \endgroup
2305 \fi}

```

\chaptermark

```

2306 \renewcommand*\chaptermark[1]{%
2307 \@mkboth{\@curparthead}{\protect\thechapter. #1}%
2308 }

```

## Set up page styles

```
\firstpagehead
2309 \newcommand{\firstpagehead}{%

\firstpagefoot
2310 \newcommand{\firstpagefoot}{%
2311   \@reprint\hfill\thepage
2312 }

\headfont Set the header font
2313 \newcommand*{\headfont}{\reset@font\small\scshape}%

\footfont Set the footer font
2314 \newcommand*{\footfont}{\reset@font\small\itshape}%

\ps@chplain Page style for first page of a chapter
2315 \newcommand*{\ps@chplain}{%
2316   \let\@mkboth\@gobbletwo
2317   \renewcommand*{\@oddhead}{\headfont\firstpagehead}%
2318   \renewcommand*{\@evenhead}{}%
2319   \renewcommand*{\@oddfoot}{\footfont\firstpagefoot}%
2320   \renewcommand*{\@evenfoot}{\footfont\thepage\hfill
2321   }%
2322 }
2323 \let\ps@plain\ps@chplain

\ps@article Page style for the imported articles.
2324 \newcommand*{\ps@article}{%
2325   \let\@mkboth\@gobbletwo
2326   \renewcommand*{\@oddhead}{\headfont\hfill\@shorttitle}%
2327   \renewcommand*{\@evenhead}{\headfont\@shortauthor\hfill}%
2328   \renewcommand*{\@oddfoot}{\footfont\hfill\thepage}
2329   \renewcommand*{\@evenfoot}{\footfont\thepage\hfill}
2330 }

\ps@articlet Title page style for imported articles (imported using \importarticle)
2331 \newcommand*{\ps@articlet}{%
2332   \let\@mkboth\@gobbletwo
2333   \renewcommand*{\@oddhead}{}%
2334   \renewcommand*{\@evenhead}{}%
2335   \renewcommand*{\@oddfoot}{\footfont\hfill\thepage}
2336   \renewcommand*{\@evenfoot}{\footfont\thepage\hfill}
2337 }

\ps@jmlrbook Page style for book
2338 \newcommand*{\ps@jmlrbook}{%
2339   \renewcommand*{\@oddfoot}{\footfont\hfill\thepage}
```

```

2340 \renewcommand*{\@evenfoot}{\footfont\thepage\hfill}
2341 \def\@evenhead{\headfont\leftmark\hfill}%
2342 \def\@oddhead{\hfill\headfont\rightmark}%
2343 \let\@mkboth\markboth
2344 \renewcommand*{\sectionmark}[1]{}%
2345 }

```

`\markleft` Provide a command to set just the left header mark.

```

2346 \newcommand*{\markleft}[1]{%
2347 \begingroup
2348 \let\label\relax
2349 \let\index\relax
2350 \let\glossary\relax
2351 \expandafter\@markleft\@themark{#1}%
2352 \@temptokena
2353 \expandafter{\@themark}%
2354 \mark{\the\@temptokena}
2355 \endgroup
2356 \if@nobreak
2357 \ifvmode
2358 \nobreak
2359 \fi
2360 \fi
2361 }
2362 \newcommand*{\@markleft}[3]{%
2363 \@temptokena{#2}%
2364 \unrestored@protected@xdef\@themark{#{3}{\the\@temptokena}}
2365 }

```

`\morefrontmatter`

```

2366 \renewcommand*{\morefrontmatter}{\pagestyle{jmlrbook}}%
2367 \def\chaptermark##1{%
2368 \mkboth{##1\hfill}{\hfill##1}}%
2369 }

```

`\moremainmatter`

```

2370 \renewcommand*{\moremainmatter}{\pagestyle{jmlrbook}}%
2371 \def\chaptermark##1{%
2372 \mkboth{\@curparthead}{\protect\thechapter. ##1}%
2373 }%
2374 }

```

`\bibsection` Set the bibliography headings in the articles

```

2375 \renewcommand*\bibsection{\section*{\refname}}

```

Set up the book commands:

```

2376 \jmlrbookcommands

```



In the event that authors have used different versions of algorithm2e, define old command names.

```
2377 \providecommand*\SetNoLine{\SetAlgoNoLine}
2378 \providecommand*\SetVline{\SetAlgoVlined}
2379 \providecommand*\Setvlineskip{\SetVlineSkip}
2380 \providecommand*\SetLine{\SetAlgoLined}
2381 \providecommand*\dontprintsemicolon{\DontPrintSemicolon}
2382 \providecommand*\printsemicolon{\PrintSemicolon}
2383 \providecommand*\incmargin{\IncMargin}
2384 \providecommand*\decmargin[1]{\DecMargin{-#1}}
2385 \providecommand*\setnlskip{\SetNlSkip}
2386 \providecommand*\Setnlskip{\SetNlSkip}
2387 \providecommand*\setalcapskip{\SetAlCapSkip}
2388 \providecommand*\setalcaphskip{\SetAlCapHSkip}
2389 \providecommand*\nlsty{\NlSty}
2390 \providecommand*\Setnlsty{\SetNlSty}
2391 \providecommand*\linesnumbered{\LinesNumbered}
2392 \providecommand*\linesnotnumbered{\LinesNotNumbered}
2393 \providecommand*\linesnumberedhidden{\LinesNumberedHidden}
2394 \providecommand*\showln{\ShowLn}
2395 \providecommand*\showlnlabel{\ShowLnLabel}
2396 \providecommand*\nocaptionofalgo{\NoCaptionOfAlgo}
2397 \providecommand*\restorecaptionofalgo{\RestoreCaptionOfAlgo}
2398 \providecommand*\restylealgo{\RestyleAlgo}
2399 \providecommand*\Titleofalgo{\TitleOfAlgo}
```

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