jss: A Document Class for Publications in the Journal of Statistical Software

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1 Introduction

The IATEX 2_{ε} document class **jss** is an extension of the standard IATEX 2_{ε} **article** class for publications in the Journal of Statistical Software (JSS, http://www.jstatsoft.org/). Additionally, the JSS-specific header/footer can be easily switched off so that the document class can easily be used for other publications, e.g., R package vignettes.

The document class provides infrastructure for all four kinds of publications in JSS: regular articles, code snippets, book reviews and software reviews. Each document requires several declarations to be made in the header (before \begin{document}) which are described in Section ?? separately for articles/code snippets and book/software reviews along with some general commands which can be used in all documents.

The final version of JSS papers should be prepared using this JSS style file; the submission of the final version needs to include the full sources (.tex, .bib, and all graphics). A quick check for the most important aspects of the JSS style is given in Section ??; authors should make sure that all of them are addressed in the final version. A list of frequently asked questions (FAQ) is available online http://www.jstatsoft.org/style that provides additional details and tries to address typical problems.

All documents need to be processed by pdfIATEX, some useful information on this is provided in Section ??, which also contains some information on using BIBTEX. BIBTEX together with the style file jss.bst produces references and citations in the required format.

The actual code for the batch file (jss.ins), the driver (jss.drv) and the class (jss.cls) are briefly described in Section ??. Note, that usually you do not have to read that section when you want to prepare a submission for JSS.

2 Instructions for authors

To use the JSS styles, you have to include the class file <code>jss.cls</code>, the logo <code>jsslogo.jpg</code> and the BIBTEX style <code>jss.bst</code> in your search path. This can either be your local working directory or in your <code>texmf</code> or <code>localtexmf</code> tree.

The LATEX documents have to include the jss.cls first by

\documentclass[type]{jss}

where type can be article (which is the default), codesnippet, bookreview or softwarereview. Templates with brief instructions are provided in article.tex, codesnippet.tex, bookreview.tex and softwarereview.tex respectively. The corresponding commands used for the header declarations are described in more detail in the following.

By using jss.cls, the packages graphicx, xcolor, hyperref, ae, fancyverb and natbib are loaded automatically. Additionally, lmodern and upquote are loaded if available. Authors may, of course, include further packages if necessary (e.g., amsmath, amsfonts, bm, tikz, ...)

but should not do so excessively. In particular, no packages must be loaded that change the page layout, the font, or font encoding. If the package **thumbpdf** is available, its inclusion is encouraged.

The titles of JSS publications are capitalized, i.e., in title style, but the section headers are not and should be in sentence-style.

Acknowledgments should be included at the end of the paper before the references in a separate section set up via \section*{Acknowledgments}.

Hint. If you want to use markup in section headers you will usually have to escape it for the PDF bookmarks by giving the text for the bookmark explicitly without markup, e.g.,

 $\label{ling C++} $$\operatorname{Calling \operatorname{C}++} from R]{Calling \operatorname{C}++} from \operatorname{Proglang}{R}$$$

Hint. If compilation with pdfLATEX fails with an error at \begin{document} the reason is almost surely that some of the declarations in the header have not been made properly. For example, \Plainauthor, \Plaintitle or \Plainkeywords might be missing or still containing markup.

Hint. If you want to use the JSS style for a non-JSS paper (or a modification of a JSS paper, e.g., in a vignette), you can set the option nojss in the \documentclass statement to suppress JSS-specific layout.

2.1 Style checklist

A quick check for the most important aspects of the JSS style is given below. Authors should make sure that all of them are addressed in the final version. More details can be found in the remainder of this manual.

- The manuscript can be compiled by pdfLATeX.
- \proglang, \pkg and \code have been used for highlighting throughout the paper (including titles and references), except where explicitly escaped.
- References are provided in a .bib BibTeX database and included in the text by \cite, \citep, \citet, etc.
- Titles and headers are formatted properly:
 - − \title in title style,
 - \section etc. in sentence style,
 - all titles in the BIBTEX file in title style.
- Figures, tables and equations are marked with a \label and referred to by \ref, e.g., "Figure"\ref{...}".
- Software packages are \cite{}d properly.

2.2 Articles and code snippets

For JSS articles and code snippets respectively, the following declarations have to be made in the header of the IATEX sources (before \begin{document}}). See also the template article.tex or codesnippet.tex respectively.

\author

The command \author specifies the list of authors. The name of each author should be followed by a linebreak and his affiliation (only the university, in a single line). The authors should be separated by \And (instead of \and), e.g.,

\author{Achim Zeileis\\Universit\"at Innsbruck \And Second Author\\Plus Affiliation}

If not all authors fit into a single line, \AND (instead of \And) should be used in front of authors that should go into the next line.

\Plainauthor

The list of authors without affiliations. It needs to be comma-separated and must not contain any markup (bold fonts etc.), e.g.,

\Plainauthor{Achim Zeileis, Second Author}

\title The title of the paper. It should be capitalized and may contain further markup (in particular markup such as \pkg and \proglang), e.g.,

\title{A Capitalized Title for a Package \pkg{foo}}

\Plaintitle The full title without any markup. The default is to use \title, therefore it needs to be specified only if it is different from \title, e.g.,

\Plaintitle{A Capitalized Title for a Package foo}

\Shorttitle A shorter version of the title to be used for page headings. The default is to use \title, therefore it needs to be specified only if it is different from \title, e.g.,

\Shorttitle{foo: A Capitalized Title}

\Abstract Enter the abstract for your article here, e.g.,

\Abstract{
 The abstract of the article.
}

\Keywords A comma-separated list of (at least one) keyword(s) which should not be capitalized, e.g., \Keywords{keywords, comma-separated, not capitalized}.

\Plainkeywords The list of keywords without any markup. The default is to use \Keywords, therefore it needs to be specified only if it is different from \Keywords.

\Volume The JSS volume number in which the article is published, e.g., \Volume{11}. Note: This information will be provided upon acceptance or added by the technical editor. Prior to acceptance, do not use this command.

\Issue The JSS issue number in which the article is published, e.g., \Issue{9}. Note: This information will be provided upon acceptance or added by the technical editor. Prior to acceptance, do not use this command.

Month The month in which the article is published, e.g., \Month{September}. Note: This information will be provided upon acceptance or added by the technical editor. Prior to acceptance, do not use this command.

Year The year in which the article is published, e.g., Year{2004}. Note: This information will be provided upon acceptance or added by the technical editor. Prior to acceptance, do not use this command.

\Submitdate The date of submission for the article, e.g., \Submitdate{2004-09-29}. Note: This information will be provided upon acceptance or added by the technical editor. Prior to acceptance, do not use this command.

\Acceptdate The date of acceptance for the article, e.g., \Acceptdate{2004-09-29}. Note: This information will be provided upon acceptance or added by the technical editor. Prior to acceptance, do not use this command.

\Address The address of (at least) one author should be given in the following format

```
\Address{
   Achim Zeileis\\
   Department of Statistics and Mathematics\\
   Faculty of Economics and Statistics\\
   Universit\"at Innsbruck\\
   6020 Innsbruck, Austria\\
   E-mail: \email{Achim.Zeileis@uibk.ac.at}\\
   URL: \url{http://eeecon.uibk.ac.at/~zeileis/}
}
```

It is also possible to include your telephone and fax number, by adding them in the format

```
Telephone: +43/512/507-7103
Fax: +43/512/507-2851
```

before the e-mail address.

Furthermore, if the document is prepared using the Sweave functions in R, something like the following line

```
%% need no \usepackage{Sweave.sty}
```

(with '\%%') needs to be included in the header.

2.3 Book and software reviews

For JSS book and software respectively, the following declarations have to be made in the header of the LATEX sources (before \begin{document}). See also the template bookreview.tex or softwarereview.tex respectively. Note that some commands might differ between book and software reviews, this is always stated explicitly below.

\Reviewer

The command \Reviewer specifies the name of the reviewer followed by a linebreak and his affiliation (only the university, in a single line), e.g.,

\Reviewer{Achim Zeileis\\Universit\"at Innsbruck}

\Plainreviewer

The name of the reviewer without affiliation. It must not contain any markup (bold fonts etc.), e.g.,

\Plainauthor{Achim Zeileis}

The following five commands are just required for book reviews.

\Booktitle

The title of the book. It should be capitalized and may contain further markup (in particular markup such as \pkg and \proglang), e.g.,

\Booktitle{Visualizing Categorical Data}

\Bookauthor Author(s) of the book, e.g.,

\Bookauthor{Michael Friendly}

If there are several authors they should be comma-separated, and the last author separated by and, e.g., \Bookauthor{A and B} or \Bookauthor{A, B and C}.

\Pubyear Year of publication, e.g., \Pubyear{2000}.

\ISBN ISBN number, e.g., \ISBN\{1-58025-660-0\}.

\Pages Number of pages, both arabic and roman (if available), e.g., \Pages{456} or \Pages{xvi + 145}.

The following command is just required for software reviews.

\Softwaretitle The title of the software. It should be capitalized and may contain further markup (in particular markup such as \pkg and \proglang), e.g.,

\Softwaretitle{\pkg{Aabel} 1.5.7}

The remaining commands are again required for both book and software reviews.

\Publisher of the book/software, e.g., \Publisher{SAS Institute Inc.} or \Publisher{Gigawiz Ltd. Co.}.

\Pubaddress Address of the publisher of the book/software, e.g., \Pubaddress{Carey, NC}.

Price Price of the book/software. For books this might simply be \Price{USD 69.95} or \Price{USD 69.95 (P)}, but could also distinguish between hardcover and paperback versions \Price{USD 69.95 (P), USD 89.95 (H)}. Analogously, for a software it could be \Price{USD 349 (standard), USD 249 (academic)}.

\URL A URL for the book or software, e.g.,

\URL{http://www.math.yorku.ca/SCS/vcd/}

If no URL is available, use \URL{}.

\Plaintitle The full book or software title without any markup (line breaks, bold fonts etc.). The default is to use \Booktitle or \Softwaretitle respectively, therefore it needs to be specified only if it is different from \Booktitle or \Softwaretitle, e.g.,

\Plaintitle{Visualizing Categorical Data}

\Shorttitle A shorter version of the book or software title to be used for page headings. The default is to use \Booktitle or \Softwaretitle respectively, therefore it needs to be specified only if it is different from \Booktitle or \Softwaretitle, e.g.,

\Shorttitle{Visualizing Categorical Data}

\Volume The JSS volume number in which the review is published, e.g., \Volume{11}. Note: This information will be provided upon acceptance or added by the technical editor.

\Issue The JSS issue number in which the review is published, e.g., \Issue{9}. Note: This information will be provided upon acceptance or added by the technical editor.

\Month The month in which the review is published, e.g., \Month{September}. Note: This information will be provided upon acceptance or added by the technical editor.

Year The year in which the review is published, e.g., Year{2004}. Note: This information will be provided upon acceptance or added by the technical editor.

\Submitdate The date of publication for the review, e.g., \Submitdate{2004-09-29}. Note: This information will be provided upon acceptance or added by the technical editor.

\Address The address of (at least) one author should be given in the following format

\Address{

```
Achim Zeileis\\
Department of Statistics and Mathematics\\
Faculty of Economics and Statistics\\
Universit\"at Innsbruck\\
6020 Innsbruck, Austria\\
E-mail: \email{Achim.Zeileis@uibk.ac.at}\\
URL: \url{http://eeecon.uibk.ac.at/~zeileis/}
}
```

It is also possible to include your telephone and fax number, by adding them in the format

Telephone: +43/512/507-7103 Fax: +43/512/507-2851

before the e-mail address.

2.4 Further commands

The **jss** package provides several commands for typesetting names related to software (programming languages, packages, code) and mathematical formulae.

Writing about software

\proglang

This should be used for typesetting the names of programming languages, e.g., \proglang{Java}, \proglang{C++} or \proglang{R}. This applies also to programmable environments which also have a GUI like \proglang{SAS}, \proglang{Stata} or \proglang{S-PLUS}.

\pkg This should be used for typesetting the names of packages, e.g., \pkg{CMregr}, \pkg{MATCH} or \pkg{strucchange}.

\code

This should be used for typesetting code chunks within the text, e.g., \code{plot(1:10)}. Currently, this simply uses a typewriter font. Although it escapes most special characters, it might still lead to problems with some special characters. In such cases the code can also be set using \verb, e.g., \verb/print("hello world")/.

Layout of code

jss.cls only provides very simple means of including code which are mostly borrowed from Sweave. There are three verbatim environments for code: Code, CodeInput and CodeOutput. Furthermore, there is an environment CodeChunk which can be put around sequences of CodeInputs and CodeOutputs to (hopefully) keep LATEX from page-breaking in the middle of a code chunk. In short, there are two options: a) if no distinction between input and output is necessary, the code is placed between \begin{Code} and \end{Code}. b) If input and output should be distinguished, this can be done like in the following example.

```
\begin{CodeChunk}
\begin{CodeInput}
first input first line
first input second line
\end{CodeInput}
\begin{CodeOutput}
output of first input
\end{CodeOutput}
\begin{CodeInput}
second input
\end{CodeInput}
```

```
\begin{CodeOutput}
second output
\end{CodeOutput}
\end{CodeChunk}
```

An example what this could look like, is the following R code. The first three lines are the input, the rest is output.

```
\begin{CodeChunk}
\begin{CodeInput}
R> data(cars)
R> fm <- lm(dist ~ speed, data = log(cars))
R> summary(fm)
\end{CodeInput}
\begin{CodeOutput}
Call:
lm(formula = dist ~ speed, data = log(cars))
Residuals:
    Min
              1Q Median
                                3Q
                                        Max
-1.00215 -0.24578 -0.02898 0.20717 0.88289
Coefficients:
           Estimate Std. Error t value Pr(>|t|)
(Intercept) -0.7297 0.3758 -1.941 0.0581.
             1.6024
                        0.1395 11.484 2.26e-15 ***
speed
Signif. codes: 0 '*** 0.001 '** 0.01 '* 0.05 '.' 0.1 ' 1
Residual standard error: 0.4053 on 48 degrees of freedom
Multiple R-Squared: 0.7331,
                               Adjusted R-squared: 0.7276
F-statistic: 131.9 on 1 and 48 DF, p-value: 2.259e-15
\end{CodeOutput}
\end{CodeChunk}
```

If you prepare your paper using Sweave (which is recommended if you describe an R package) do not include Sweave.sty into your document, the necessary commands are already available within jss.cls. To prevent Sweave from including Sweave.sty automatically you need to include a line like

```
%% need no \usepackage{Sweave.sty}
```

(with '%%') into the header of your document.

If this basic infrastructure for type setting your code is not sufficient, you can also use other LaTeX packages like the listings package.

Mathematical formulae

Commonly used operators like E, VAR, COV, and P should be set using the commands \E, \VAR, \COV and \Prob. Beyond this, **jss** does not provide (or enforce) a certain mathematical notation. However, using the AMS packages (**amsmath**, **amssymb**, etc.) could be useful.

3 Using pdfIATEX and BIBTEX

Using pdfLATEX

A LATEX document (foo.tex, say) using jss.cls needs to be compiled using pdfLATEX, typically this will be done using either of the following commands:

```
pdflatex foo.tex
texi2dvi --pdf foo.tex
texi2pdf foo.tex
```

If you are not using command line tools but some integrated GUI editor for LATEX documents you will have to press the 'pdfLATEX' button (as opposed to the 'LATEX' button).

All graphics included into the document have to be in a format pdfIATEX can deal with, i.e., PDF for vector graphics or JPG/PNG/etc. for bitmaps/raster graphics. If you cannot produce PDF graphics directly but only PS/EPS, these can be converted using ps2pdf or epstopdf (usually preferred).

Hint. If you are used to compiling your documents with standard IATEX and then getting automatic reloads of the resulting DVI document in your DVI viewer, which is not possible with PDF documents in many PDF viewers: you might want to look at **xpdf** (Linux) or **gsview** (Windows, see http://www.cs.wisc.edu/~ghost/gsview/) which have a reload function.

Hint. If you want to use markup in section headers you will usually have to escape it for the PDF bookmarks by giving the text for the bookmark explicitly without markup, e.g.,

```
\colon[Calling C++ from R]{Calling \proglang{C++} from \proglang{R}}
```

Hint. If you know how to produce LATEX documents that can be processed with both LATEX and pdfLATEX, you can do so if you provide an EPS substitute for jsslogo.jpg (e.g. an empty or converted jsslogo.eps). Note, however, that the final document needs to be processed with pdfLATEX. Neither this manual nor the JSS encourage or support compilation of JSS documents with standard LATEX.

References with BIBTEX

The format for references (e.g., articles, books, software, proceedings) should look like this

Brown RL, Durbin J, Evans JM (1975). "Techniques for Testing the Constancy of Regression Relationships over Time." Journal of the Royal Statistical Society B, 37, 149–163.

Friendly M (2000). Visualizing Categorical Data. SAS Insitute, Carey, NC.

R Core Team (2020). R: A Language and Environment for Statistical Computing. R Foundation for Statistical Computing, Vienna, Austria. URL https://www.R-project.org/.

Plummer M (2003). "JAGS - A Program for Analysis of Bayesian Graphical Models Using Gibbs Sampling." In K Hornik, F Leisch, A Zeileis (eds.), "Proceedings of the 3rd International Workshop on Distributed Statistical Computing, Vienna, Austria," ISSN 1609-395X, URL https://www.R-project.org/conferences/DSC-2003/Proceedings/.

Important. Note, that also the titles of papers are in title style (as opposed to sentence style), i.e., they are capitalized. The first word after a colon ':' is always capitalized. Furthermore,

commands like \proglang and \pkg should also be used for the references. The names of journals or proceeding volumes should not be abbreviated.

The easiest way to achieve this is to use BIBTEX together with the style file jss.bst. To do so, the references just have to be included in a BIBTEX file, foo.bib say, which has to be included at the end of the LATEX document by \bibliography{foo}. Note, that to obtain references in the format above, the title field in your bib file, needs to be capitalized (contrary to the folklore, there are BIBTEX styles that rely on this even for @Article entries), i.e. the entry title = {Visualizing Categorical Data} is correct, while entries like title = {Visualizing categorical data} or (even worse) title = {{Visualizing categorical data}} are not.

The default in jss.cls is to use the **natbib** package with options authoryear, round and longnamesfirst. If you cite any article with six or more authors, the citations with all names should be avoided. This can either be done by declaring \shortcites{...} for the particular references or by turning the longnamesfirst option off completely. The latter can be done by using the option shortnames when loading the jss.cls class

\documentclass[article,shortnames]{jss}

4 The code

4.1 The batch file

First comes the code for creating the batch file jss.ins which in turn can be used for producing the package and driver files.

4.2 The driver

Next comes the documentation driver file for LaTeX, i.e., the file that will produce the documentation you are currently reading. It will be extracted from this file by the docstrip program. Since it is the first code in the file one can alternatively process this file directly with LaTeX 2_{ε} to obtain the documentation.

```
14 (*driver)
15 \documentclass[a4paper]{ltxdoc}
16 \providecommand{\file}[1]{\texttt{#1}}
17 \providecommand \pkg [1] {{\fontseries\{m\}\backslash fontseries\{b\}\backslash select font \#1}} \\
18 \usepackage{xcolor,hyperref}
19 \oddsidemargin1.2cm
20 \textwidth14.2cm
21 \textheight23.3cm
22 \topmargin-.7cm
23 \setlength{\parskip}{0.7ex plus0.1ex minus0.1ex}
24 \setlength{\parindent}{0em}
25 \begin{document}
      \OnlyDescription
      \DocInput{jss.dtx}
28 \end{document}
29 (/driver)
```

4.3 The class

Next is the main part, the code for the class file.

It requires LATEX 2ε

```
30 \enskip 30 \enski
```

and is based on the article class. But before we load the class we declare and process some options. These reflects wether we want to write an article, code snippet, a book review or software review. The shortnames option is for loading natbib without the option longnamesfirst. The nojss option suppresses JSS header and footer. The notitle option

suppresses the automatic \maketitle at the beginning of the document. The noheadings option suppresses headings on the pages. The nofooter option suppresses the automatic \makefooter at the end of the document.

```
34 \langle *class \rangle
35 %% options
36 \neq 0
37 \newif\if@codesnippet
38 \newif\if@bookreview
39 \newif\if@softwarereview
40 \newif\if@review
41 \newif\if@shortnames
42 \newif\if@nojss
43 \neq 0
44 \newif\if@noheadings
45 \neq 5 \pmod{15}
47 \@articletrue
48 \@codesnippetfalse
49 \ensuremath{\mbox{\sc 0}}\ensuremath{\mbox{\sc 0}}\ensuremath{\mbo
50 \@softwarereviewfalse
51 \@reviewfalse
52 \ \Oshortnamesfalse
53 \@nojssfalse
54 \@notitlefalse
55 \Onoheadingsfalse
56 \@nofooterfalse
58 \DeclareOption{article}{\@articletrue%
59 \@codesnippetfalse \@bookreviewfalse \@softwarereviewfalse}
60 \DeclareOption{codesnippet}{\Carticlefalse%
61 \@codesnippettrue \@bookreviewfalse \@softwarereviewfalse}
62 \DeclareOption{bookreview}{\@articlefalse%
63 \@codesnippetfalse \@bookreviewtrue \@softwarereviewfalse}
64 \DeclareOption{softwarereview}{\@articlefalse%
         \@codesnippetfalse \@bookreviewfalse \@softwarereviewtrue}
66 \DeclareOption{shortnames}{\@shortnamestrue}
67 \DeclareOption{nojss}{\@nojsstrue}
68 \DeclareOption{notitle}{\@notitletrue}
69 \DeclareOption{noheadings}{\@noheadingstrue}
70 \DeclareOption{nofooter}{\@nofootertrue}
72 \ProcessOptions
73 \LoadClass[11pt,a4paper,twoside]{article}
A few packages are required and the font encoding is specified.
75 (*class)
76 %% required packages
77 \RequirePackage{graphicx,xcolor,ae,fancyvrb}
78 \RequirePackage[T1]{fontenc}
79 \IfFileExists{upquote.sty}{\RequirePackage{upquote}}{}
80 \IfFileExists{lmodern.sty}{\RequirePackage{lmodern}}{}
81 (/class)
In addition, hyperref is included later on. The bibliography is generated using natbib and
the BIBTEX style jss.bst.
82 (*class)
83 %% bibliography
84 \if@shortnames
```

```
\usepackage[authoryear,round]{natbib}
86 \else
87
     \usepackage[authoryear,round,longnamesfirst]{natbib}
88 \fi
89 \bibpunct{(}{)}{;}{a}{}{,}
90 \bibliographystyle{jss}
91 (/class)
The page layout is set to a wide style with smaller margins.
92 (*class)
93 %% page layout
94 \topmargin Opt
95 \textheight 46\baselineskip
96 \advance\textheight by \topskip
97 \oddsidemargin 0.1in
98 \evensidemargin 0.15in
99 \marginparwidth 1in
100 \oddsidemargin 0.125in
101 \evensidemargin 0.125in
102 \marginparwidth 0.75in
103 \textwidth 6.125in
104 \langle / class \rangle
Paragraphs are not indented, instead \parskip is increased.
105 (*class)
106 %% paragraphs
107 \setlength{\parskip}{0.7ex plus0.1ex minus0.1ex}
108 \setlength{\parindent}{0em}
109 (/class)
To process the meta information we need some new commands: for all publications,
111 \%\% for all publications
112 \newcommand{\Address}[1]{\def\@Address{#1}}
113 \newcommand{\Plaintitle}[1]{\def\@Plaintitle{#1}}
114 \newcommand{\Shorttitle}[1]{\def\@Shorttitle{#1}}
115 \newcommand{\Plainauthor}[1]{\def\@Plainauthor{#1}}
116 \newcommand{\Volume}[1]{\def\@Volume{#1}}
117 \newcommand{\Year}[1]{\def\@Year{#1}}
118 \newcommand{\Month}[1]{\def\@Month{#1}}
119 \newcommand{\Issue}[1]{\def\@Issue{#1}}
120 \end{Submitdate} [1] {\end{CSubmitdate}} \label{local_submitdate} \\
121 \langle /class \rangle
for articles and code snippets,
122 (*class)
123 %% for articles and code snippets
124 \newcommand{\Acceptdate}[1]{\def\@Acceptdate{#1}}
125 \newcommand{\Abstract}[1]{\def\@Abstract{#1}}
126 \newcommand{\Keywords}[1]{\def\@Keywords{\#1}}
127 \end{Plainkeywords} [1] {\end{QPlainkeywords} $$ $$ $$ $$ $$
128 \langle / class \rangle
for book and software reviews,
129 (*class)
130 %% for book and software reviews
131 \newcommand{\Reviewer}[1]{\def\@Reviewer{#1}}
132 \newcommand{\Booktitle}[1]{\def\@Booktitle{#1}}
133 \newcommand{\Bookauthor}[1]{\def\@Bookauthor{#1}}
```

```
134 \newcommand{\Publisher}[1]{\def\@Publisher{#1}}
135 \newcommand{\Pubaddress}[1]{\def\@Pubaddress{#1}}
136 \newcommand{\Pubyear}[1]{\def\@Pubyear{#1}}
137 \newcommand{\ISBN}[1]{\def\@ISBN{#1}}
138 \newcommand{\Pages}[1]{\def\@Pages{#1}}
139 \newcommand{\Price}[1]{\def\@Price{#1}}
140 \newcommand{\Plainreviewer}[1]{\def\@Plainreviewer{#1}}
141 \newcommand{\Softwaretitle}[1]{\def\@Softwaretitle{#1}}
142 \newcommand{\URL}[1]{\def\@URL{#1}}
143 \mbox{newcommand{\DOI}[1]{\def\DOI{#1}}}
144 (/class)
and for internal use only.
145 (*class)
146 %% for internal use
147 \newcommand{\Seriesname}[1]{\def\@Seriesname{#1}}
148 \newcommand{\Hypersubject}[1]{\def\@Hypersubject{#1}}
149 \newcommand{\Hyperauthor}[1]{\def\@Hyperauthor{#1}}
150 \newcommand{\Footername}[1]{\def\@Footername{#1}}
151 \newcommand{\Firstdate}[1]{\def\@Firstdate{#1}}
152 \newcommand{\Seconddate}[1]{\def\@Seconddate{#1}}
153 \newcommand{\Reviewauthor}[1]{\def\@Reviewauthor{#1}}
154 (/class)
Some defaults for theses commands are specified, which are (hopefully) a useful guidance
when using the jss.cls.
155 (*class)
156 %% defaults
157 \author{Firstname Lastname\\Affiliation}
158 \title{Title}
159 \Abstract{---!!!---an abstract is required---!!!---}
160 \Plainauthor{\@author}
161 \Volume{VV}
162 \Year{YYYY}
163 \Month{MMMMMM}
164 \Issue{II}
165 \Submitdate{yyyy-mm-dd}
166 \Acceptdate{yyyy-mm-dd}
167 \Address{
168 Firstname Lastname\\
169 Affiliation\\
170
    Address, Country\\
171 E-mail: \email{name@address}\\
172
    URL: \url{http://link/to/webpage/}
173 }
175 \Reviewer{Firstname Lastname\\Affiliation}
176 \Plainreviewer{Firstname Lastname}
177 \Booktitle{Book Title}
178 \Bookauthor{Book Author}
179 \Publisher{Publisher}
180 \Pubaddress{Publisher's Address}
181 \Pubyear{YYY}
182 \ISBN{x-xxxxx-xxx-x}
183 \Pages{xv + 123}
184 \Price{USD 69.95 (P)}
185 \URL{http://link/to/webpage/}
186 \DOI{10.18637/jss.v000.i00}
187 (/class)
```

Conditional on the type of document several other defaults and some meta information is stored.

```
188 (*class)
189 \if@article
190 \Seriesname{Issue}
     \Hypersubject{Journal of Statistical Software}
191
     \Plaintitle{\@title}
192
193
     \Shorttitle{\@title}
    \Plainkeywords{\@Keywords}
194
195 \fi
196
197 \if@codesnippet
    \Seriesname{Code Snippet}
     \Hypersubject{Journal of Statistical Software -- Code Snippets}
199
200
     \Plaintitle{\@title}
     \Shorttitle{\@title}
201
202 \Plainkeywords{\@Keywords}
203 \fi
204
205 \if@bookreview
206 \Seriesname{Book Review}
     \Hypersubject{Journal of Statistical Software -- Book Reviews}
207
208
     \Plaintitle{\@Booktitle}
209
     \Shorttitle{\@Booktitle}
210 \Reviewauthor{\QBookauthor}\
                    \verb|\QPublisher|, \QPubaddress|, \QPubyear.||
211
                    ISBN~\@ISBN. \@Pages~pp. \@Price.\\
212
213
                    \url{\@URL}}
     \Plainkeywords{}
214
215
     \@reviewtrue
216 \fi
217
218 \if@softwarereview
219
    \Seriesname{Software Review}
220
     \Hypersubject{Journal of Statistical Software -- Software Reviews}
     \Plaintitle{\@Softwaretitle}
221
     \Shorttitle{\@Softwaretitle}
222
    \Booktitle{\@Softwaretitle}
223
224 \Reviewauthor{\@Publisher, \@Pubaddress. \@Price.\\
225
                    \url{\QURL}
    \Plainkeywords{}
226
227 \@reviewtrue
228 \fi
229
230 \if@review
231 \Hyperauthor{\@Plainreviewer}
232 \Keywords{}
     \Footername{Reviewer}
233
234
     \Firstdate{\textit{Published:} \@Submitdate}
235
     \Seconddate{}
236 \ensuremath{\setminus} else
     \Hyperauthor{\@Plainauthor}
237
     \Keywords{---!!!---at least one keyword is required---!!!---}
     \Footername{Affiliation}
     \Firstdate{\textit{Submitted:} \@Submitdate}
241
     \Seconddate{\textit{Accepted:} \@Acceptdate}
242 \fi
243 \langle / class \rangle
```

For typesetting of code some basic infrastructure along the lines of Sweave is provided. First,

the Sweave commands are provided explicitly,

```
244 (*class)
245 %% Sweave(-like)
246 \DefineVerbatimEnvironment{Sinput}{Verbatim}{fontshape=sl}
247 \DefineVerbatimEnvironment{Soutput}{Verbatim}{fontshape=sl}
248 \DefineVerbatimEnvironment{Scode}{Verbatim}{fontshape=sl}
249 \newenvironment{Schunk}{}{}
250 \langle /class \rangle
and analogous commands with more neutral names for general pieces of code.
251 \langle *class \rangle
252 \DefineVerbatimEnvironment{Code}{Verbatim}{}
253 \DefineVerbatimEnvironment{CodeInput}{Verbatim}{fontshape=sl}
254 \DefineVerbatimEnvironment{CodeOutput}{Verbatim}{}
255 \newenvironment{CodeChunk}{}{}
256 \setkeys{Gin}{width=0.8\textwidth}
257 \/class\rangle
```

The header and footer of JSS publications displays the logo, the publication information and some further links. Here, we define the footer first (because it must be included before hyperref in TeXlive). It contains the somewhat extended publication information (from the header), preceded by the address of the author/reviewer.

```
258 (*class)
259 %% footer
260 \newlength{\footerskip}
261 \textbf{\footerskip} \{ 2.5 \textbf{\baselineskip plus 2ex minus 0.5ex} \}
262
263 \newcommand{\makefooter}{%
     \vspace{\footerskip}
264
265
     \if@nojss
266
267
       \begin{samepage}
268
       \textbf{\large \@Footername: \nopagebreak}\\[.3\baselineskip] \nopagebreak
269
       \@Address \nopagebreak
270
       \end{samepage}
271
     \else
272
       \begin{samepage}
       \textbf{\large \@Footername: \nopagebreak}\\[.3\baselineskip] \nopagebreak
273
       \@Address \nopagebreak
274
       \vfill
275
       \hrule \nopagebreak
276
277
       \vspace{.1\baselineskip}
       {\fontfamily{pzc} \fontsize{13}{15} \selectfont Journal of Statistical Software}
278
279
       \url{http://www.jstatsoft.org/}\\ \nopagebreak
280
281
       published by the Foundation for Open Access Statistics
282
       \hfill
283
       \url{http://www.foastat.org/}\\[.3\baselineskip] \nopagebreak
       {\@Month{} \@Year, Volume~\@Volume, \@Seriesname~\@Issue}
284
       \hfill
285
       \@Firstdate\\ \nopagebreak
286
       {\href{https://doi.org/\@DOI}{\tt doi:\@DOI}}
287
       \hfill
288
       \@Seconddate \nopagebreak
289
       \vspace{.3\baselineskip}
290
       \hrule
291
292
       \end{samepage}
     \fi
293
294 }
```

```
295 \langle / class \rangle
We include the footer at the end of the document (for title see below).
297 \if@nofooter
298 %% \AtEndDocument{\makefooter}
299 \ensuremath{\setminus} \text{else}
    \AtEndDocument{\makefooter}
300
301\fi
302 \langle / class \rangle
After defining this, we can require the hyperref package.
303 (*class)
304 %% required packages
305 \RequirePackage{hyperref}
306 \langle /class \rangle
and proceed to define the header.
The header for all JSS publications has the logo jsslogo.jpg along with the publication
information.
307 (*class)
308 %% new \maketitle
309 \def\@myoddhead{
310
     {\color{white} JSS}\\[-1.42cm]
311
     \hspace{-2em} \includegraphics[height=23mm,keepaspectratio]{jsslogo} \hfill
     \parbox[b][23mm]{118mm}{\hrule height 3pt
313
      \center{
      {\fontfamily{pzc} \fontsize{28}{32} \selectfont Journal of Statistical Software}
314
315
      \vfill
      {\it \small \@Month{} \@Year, Volume~\@Volume, \@Seriesname~\@Issue.%
316
                317
        \hrule height 3pt}}
318
319 \langle /class \rangle
This header is then used in the re-defined \maketitle:
320 (*class)
321 \if@review
     \renewcommand{\maketitle}{
322
     \if@noiss
323
       \% \ \c) \(3\baselineskip)
324
     \else
325
       \@oddhead{\@myoddhead}\\[3\baselineskip]
326
327
     \fi
       {\large
328
329
       \noindent
       Reviewer: \@Reviewer
330
331
       \vspace{\baselineskip}
332
       \hrule
       \vspace{\baselineskip}
333
       \textbf{\@Booktitle}
334
       \begin{quotation} \noindent
335
       \@Reviewauthor
336
337
       \end{quotation}
       \vspace{0.7\baselineskip}
338
       \hrule
339
340
       \vspace{1.3\baselineskip}
341
342
       \thispagestyle{empty}
343
```

```
344
               \if@nojss
                   \markboth{\centerline{\@Shorttitle}}{\centerline{\@Hyperauthor}}
345
346
347
                   \markboth{\centerline{\@Shorttitle}}{\centerline{\@Hypersubject}}
348
               \pagestyle{myheadings}
349
          }
350
351 \else
          \def\maketitle{
352
          \if@nojss
353
               %% \@oddhead{\@myoddhead} \par
354
355
356
               \@oddhead{\@myoddhead} \par
357
358
             \begingroup
                 \def\thefootnote{\fnsymbol{footnote}}
359
                 \def\@makefnmark{\hbox to Opt{$^{\@thefnmark}$\hss}}
360
361
                 \long\def\@makefntext##1{\parindent 1em\noindent
                                                                      \hbox to1.8em{\hss m@th ^{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\ensuremath{\e
362
363
                 \@maketitle \@thanks
364
             \endgroup
             \setcounter{footnote}{0}
365
366
             \if@noheadings
367
              %% \markboth{\centerline{\@Shorttitle}}{\centerline{\@Hypersubject}}
368
369
               \else
370
                 \thispagestyle{empty}
371
                   \if@nojss
372
                        \markboth{\centerline{\@Shorttitle}}{\centerline{\@Hyperauthor}}
373
                   \else
                        \markboth{\centerline{\@Shorttitle}}{\centerline{\@Hypersubject}}
374
                   \fi
375
376
                 \pagestyle{myheadings}
             \fi
377
378
             \let\maketitle\relax \let\@maketitle\relax
379
380
             \gdef\@thanks{}\gdef\@author{}\gdef\@title{}\let\thanks\relax
381
382
383
          \def\@maketitle{\vbox{\hsize\textwidth \linewidth\hsize}
384
          \if@nojss
385
               %% \vskip 1in
386
           \else
               \vskip 1in
387
           \fi
388
             {\centering
389
             {\LARGE\bf \@title\par}
390
             \vskip 0.2in plus 1fil minus 0.1in
391
392
393
                     \def\and{\unskip\enspace{\rm and}\enspace}%
394
                     \def\And{\end{tabular}\hss \egroup \hskip 1in plus 2fil
                            395
                     \def\AND{\end{tabular}\hss\egroup \hfil\hfil\egroup
396
                            \vskip 0.1in plus 1fil minus 0.05in
397
                            \label{linewidthbgroup} $$ \box to \linewidth\bgroup\rule{z@}{10pt} \hfil\hfil $$
398
                            \hbox to Opt\bgroup\hss \begin{tabular}[t]{c}\large\bf\rule{\z@}{24pt}\ignorespaces}
399
400
                     \hbox to \linewidth\bgroup\rule{\z0}{10pt} \hfil\hfil
401
                     \hbox to Opt\bgroup\hss \begin{tabular}[t]{c}\large\bf\rule{\z0}{24pt}\@author
                     \end{tabular}\hss\egroup
402
             \hfil\hfil\egroup}
403
```

```
\vskip 0.3in minus 0.1in
404
405
      \hrule
      \begin{abstract}
406
407
      \@Abstract
      \end{abstract}}
408
      \textit{Keywords}:~\@Keywords.
409
410
      \vskip 0.1in minus 0.05in
      \hrule
411
      \vskip 0.2in minus 0.1in
412
     11
413
414 \fi
415 \langle / class \rangle
The appearance of sections, subsections and subsubsections is controlled by
416 (*class)
417 %% sections, subsections, and subsubsections
418 \newlength{\preXLskip}
419 \newlength{\preLskip}
420 \neq 420 \neq 420
421 \newlength{\preSskip}
422 \newlength{\postMskip}
423 \newlength{\postSskip}
424 \setlength{\preXLskip}{1.8\baselineskip plus 0.5ex minus 0ex}
425 \setlength{\preLskip}{1.5\baselineskip plus 0.3ex minus 0ex}
426 \setlength{\preMskip}{1\baselineskip plus 0.2ex minus 0ex}
427 \setlength{\preSskip}{.8\baselineskip plus 0.2ex minus 0ex}
428 \setlength{\postMskip}{.5\baselineskip plus 0ex minus 0.1ex}
429 \setlength{\postSskip}{.3\baselineskip plus 0ex minus 0.1ex}
430
431
432 \newcommand{\jsssec}[2][default]{\vskip \preXLskip%
     \pdfbookmark[1]{#1}{Section.\thesection.#1}%
433
     \refstepcounter{section}%
434
     \centerline{\textbf{\Large \thesection. #2}} \nopagebreak
     \vskip \postMskip \nopagebreak}
437 \newcommand{\jsssecnn}[1]{\vskip \preXLskip%
438
     \centerline{\textbf{\Large #1}} \nopagebreak
439
     \vskip \postMskip \nopagebreak}
440
441 \newcommand{\jsssubsec}[2][default]{\vskip \preMskip%
     \pdfbookmark[2]{#1}{Subsection.\thesubsection.#1}%
442
     \refstepcounter{subsection}%
443
     \textbf{\large \thesubsection. #2} \nopagebreak
444
     \vskip \postSskip \nopagebreak}
445
446 \newcommand{\jsssubsecnn}[1]{\vskip \preMskip%
     \textbf{\large #1} \nopagebreak
     \vskip \postSskip \nopagebreak}
448
449
450 \newcommand{\jsssubsubsec}[2][default]{\vskip \preSskip%
451
     \pdfbookmark[3]{#1}{Subsubsection.\thesubsubsection.#1}%
     \refstepcounter{subsubsection}%
452
     {\large \textit{#2}} \nopagebreak
453
     \vskip \postSskip \nopagebreak}
454
455 \newcommand{\jsssubsubsecnn}[1]{\vskip \preSskip%
     {\textit{\large #1}} \nopagebreak
456
     \vskip \postSskip \nopagebreak}
457
459 \newcommand{\jsssimplesec}[2][default]{\vskip \preLskip%
460 %% \pdfbookmark[1]{#1}{Section.\thesection.#1}%
    \refstepcounter{section}%
```

```
\textbf{\large #1} \nopagebreak
462
     \vskip \postSskip \nopagebreak}
463
464 \newcommand{\jsssimplesecnn}[1]{\vskip \preLskip%
465
     \textbf{\large #1} \nopagebreak
     \vskip \postSskip \nopagebreak}
466
467
468 \if@review
     \renewcommand{\section}{\secdef \jsssimplesec \jsssimplesecnn}
469
     \renewcommand{\subsection}{\secdef \jsssimplesec \jsssimplesecnn}
470
     \renewcommand{\subsubsection}{\secdef \jsssimplesec \jsssimplesecnn}
471
472 \else
     \renewcommand{\section}{\secdef \jsssec \jsssecnn}
473
474
     \renewcommand{\subsection}{\secdef \jsssubsec \jsssubsecnn}
475 \renewcommand{\subsubsection}{\secdef \jsssubsubsec \jsssubsubsecnn}
476 \fi
477 (/class)
The hypersetup uses some modified colors
478 (*class)
479 %% colors
480 \ensuremath{\mbox{definecolor}\{\mbox{Red}\}\{\mbox{0.5,0,0}\}\ensuremath}
481 \definecolor{Blue}{rgb}{0,0,0.5}
482 \langle / class \rangle
and is then defined by
483 (*class)
484 \if@review
    \hypersetup{%
485
       hyperindex = {true},
486
       colorlinks = {true},
487
       linktocpage = {true},
488
       plainpages = {false},
489
490
       linkcolor = {Blue},
491
       citecolor = {Blue},
492
       urlcolor = {Red},
493
        pdfstartview = {Fit},
       pdfpagemode = {None},
494
       pdfview = {XYZ null null null}
495
    }
496
497 \else
     \hypersetup{%
498
       hyperindex = {true},
499
       colorlinks = {true},
500
       linktocpage = {true},
501
       plainpages = {false},
502
503
       linkcolor = {Blue},
504
       citecolor = {Blue},
505
       urlcolor = {Red},
506
       pdfstartview = {Fit},
       pdfpagemode = {UseOutlines},
507
       pdfview = {XYZ null null null}
508
509
510 \fi
511 \langle / class \rangle
The information for the hyper summary requires some information which has not been pro-
cessed before the beginning of the document. Therefore, we need a second \hypersetup.
512 \langle *class \rangle
513 \ightharpoonup 513 \ightharpoonup 513 \
    \AtBeginDocument{
```

```
515
                \hypersetup{%
                    pdfauthor = {\@Hyperauthor},
516
                    pdftitle = {\@Plaintitle},
517
                   pdfkeywords = {\@Plainkeywords}
518
519
520
           }
521 \else
522
           \AtBeginDocument{
523
                \hypersetup{%
                   pdfauthor = {\@Hyperauthor},
524
                   pdftitle = {\@Plaintitle},
525
                   pdfsubject = {\@Hypersubject},
526
527
                   pdfkeywords = {\@Plainkeywords}
528
         }
529
530 \fi
531 (/class)
 We put the header at the beginning of the document, using either the classic macro or the
 new hook macro. See also above for the footer.
532 (*class)
533 \if@notitle
534 %% \AtBeginDocument{\maketitle}
535 \else
\label{lem:bound} $$ \end{AddToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\addToHook}_{\add
537 \fi
538 \langle / class \rangle
 Finally, some additional commands are provided for writing about software (code, program-
 ming languages, packages),
539 (*class)
540 %% commands
541 \newcommand\code{\bgroup\@makeother\_\@makeother\^\@makeother\$\@codex}
542 \def\@codex#1{{\normalfont\ttfamily\hyphenchar\font=-1 #1}\egroup}
543 %%\let\code=\texttt
544 \let\proglang=\textsf
545 \newcommand{\pkg}[1]{{\fontseries{m}\fontseries{b}\selectfont #1}}
546 (/class)
 for specifying e-mail addresses,
547 (*class)
548 \mbox{ } 1){1}{\mbox{mailto:#1}{\normalfont\texttt{#1}}}
549 (/class)
 digital object identifiers (DOIs),
550 (*class)
551 \ifx\csname urlstyle\endcsname\relax
          \newcommand\@doi[1]{doi:\discretionary{}{}{}#1}\else
           554 \urlstyle{tt}\Url}\fi
555 \newcommand{\doi}[1]{\href{https://doi.org/#1}{\normalfont\texttt{\@doi{#1}}}}
556 (/class)
 and for mathematical notation.
557 (*class)
558 \mbox{ \newcommand{\E}{\mathbf{E}}}
559 \newcommand{\VAR}{\mathsf{VAR}}
560 \newcommand{\COV}{\mathsf{COV}}
561 \mbox{ \newcommand{\Prob}{\mathbf{P}}}
562 \langle / class \rangle
```