

L^AT_EX Class for *Association for Computing Machinery**

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Abstract

This package provides a class for typesetting publications of Association for Computing Machinery.

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1 Introduction

Association for Computing Machinery is the world's largest educational and scientific computing society, which delivers resources that advance computing as a science and a profession¹. It was one of the early adopters of \TeX for its typesetting.

It provided several different classes for a number of journal and conference proceedings. Unfortunately during the years since these classes were written, the code was patched many times, and the support of the different versions of the classes became difficult.

This package provides the uniform interface for all ACM publications. It is intended to replace all different classes and packages and provide an up to date \LaTeX package.

The package uses only free \TeX packages and fonts included in \TeX Live, Mik \TeX and other popular \TeX distributions. It is intended to be published in these distributions itself, which minimizes users' efforts in the installation and support of the package.

I am grateful to Matthew Fluet, John Owens, Craig Rodkin, Bernard Rous, David Shamma, Stephen Spencer and many others for their invaluable help.

The development version of the package is available at <https://github.com/borisveytsman/acmart>.

2 User's guide

2.1 Installation

Most probably, you already have this package installed in your favorite \TeX distribution; if not, you may want to upgrade. You may need to upgrade it anyway since the package uses a number relatively recent packages, especially the ones related to the fonts.

If you decide to install the package yourself, follow the standard rules:

1. Run `latex on acmart.ins`. This will produce the file `acmart.cls`.
2. Put the file `acmart.cls` and the bibliography files `*.bst` to the places where \LaTeX can find them (see [1] or the documentation for your \TeX system).
3. Update the database of file names. Again, see [1] or the documentation for your \TeX system for the system-specific details.
4. The file `acmart.pdf` provides the documentation for the package (this is the file you are probably reading now).

As an alternative to items 2 and 3 you can just put the files in the working directory where your `.tex` file is.

The class uses a number of other packages. They are included in all major \TeX distributions (\TeX Live, Mac \TeX , Mik \TeX) of 2015 and later, so you probably have them installed. Just in case here is the list of these packages:

- *algorithm2e*, <http://www.ctan.org/pkg/algorithm2e>

¹<http://www.acm.org/>

- *amscs*, <http://www.ctan.org/pkg/amscs>
- *amsfonts*, <http://www.ctan.org/pkg/amsfonts>
- *amsmath*, <http://www.ctan.org/pkg/amsmath>
- *booktabs*, <http://www.ctan.org/pkg/booktabs>
- *caption*, <http://www.ctan.org/pkg/caption>
- *comment*, <http://www.ctan.org/pkg/comment>
- *environ*, <http://www.ctan.org/pkg/environ>
- *fancyhdr*, <http://www.ctan.org/pkg/fancyhdr>
- *float*, <http://www.ctan.org/pkg/float>
- *fontaxes*, <http://www.ctan.org/pkg/fontaxes>
- *geometry*, <http://www.ctan.org/pkg/geometry>
- *graphics*, <http://www.ctan.org/pkg/graphics>
- *hyperref*, <http://www.ctan.org/pkg/hyperref>
- *ifluatex*, <http://www.ctan.org/pkg/ifluatex>
- *ifxetex*, <http://www.ctan.org/pkg/ifxetex>
- *inconsolata*, <http://www.ctan.org/pkg/inconsolata>
- *kastrup*, <http://www.ctan.org/pkg/kastrup>
- *libertine*, <http://www.ctan.org/pkg/libertine>
- *manyfoot*, <http://www.ctan.org/pkg/manyfoot>
- *microtype*, <http://www.ctan.org/pkg/microtype>
- *mptopdf*, <http://www.ctan.org/pkg/mptopdf>
- *ms*, <http://www.ctan.org/pkg/ms>
- *mweights*, <http://www.ctan.org/pkg/mweights>
- *natbib*, <http://www.ctan.org/pkg/natbib>
- *nccfoots*, <http://www.ctan.org/pkg/nccfoots>
- *newtx*, <http://www.ctan.org/pkg/newtx>
- *oberdiek*, <http://www.ctan.org/pkg/oberdiek>
- *pdftex-def*, <http://www.ctan.org/pkg/pdftex-def>

- *resize*, <http://www.ctan.org/pkg/resize>
- *setspace*, <http://www.ctan.org/pkg/setspace>
- *tools*, <http://www.ctan.org/pkg/tools>
- *totpages*, <http://www.ctan.org/pkg/totpages>
- *trimspaces*, <http://www.ctan.org/pkg/trimspaces>
- *upquote*, <http://www.ctan.org/pkg/upquote>
- *url*, <http://www.ctan.org/pkg/url>
- *xcolor*, <http://www.ctan.org/pkg/xcolor>
- *xkeyval*, <http://www.ctan.org/pkg/xkeyval>

2.2 Invocation and options

To use the class put in the preamble of your document

```
\documentclass[<options>]{acmart}
```

There are several options corresponding to the type of the document and its general appearance. They are described below. Generally speaking, the options have key=value forms, for example

```
\documentclass[format=acmsmall, screen=true, review=false]{acmart}
```

The option `format` describes the format of the output. There are several possible values for this option, for example,

```
\documentclass[format=acmtog]{acmart}
```

Actually the words `format=` can be omitted, e.g.,

```
\documentclass[acmtog, review=false]{acmart}
```

The possible formats are listed in Table 1. Note that formats starting with `acm` are intended for journals and transactions, while formats starting with `sig` are intended for proceedings published as books.

There are several Boolean options which can take true or false values. They are listed in Table 2. The words `=true` can be omitted when setting the Boolean option, so instead of `screen=true` one can write just `screen`, for example,

```
\documentclass[acmsmall, screen, review]{acmart}
```

Table 1: The possible values for the format option

Value	Meaning
manuscript	A manuscript. This is the default
acmsmall	Small format, used for CIE, CSUR, JACM, JDIQ, JEA, JERIC, JETC, TAAS, TACCESS, TACO, TALG, TALLIP (formerly TALIP), TCPS, TEAC, TECS, TIIS, TISSEC, TIST, TKDD, TMIS, TOCE, TOCHI, TOCL, TOCS, TOCT, TODAES, TODS, TOIS, TOIT, TOMACS, TOMM (formerly TOMCCAP), TOMPECS, TOMS, TOPC, TOPLAS, TOPS, TOS, TOSEM, TOSN, TRETTS, TSAS, TSC, TSLP, TWEB.
acmlarge	Large single column format, used for JOCCH, TAP
acmtog	Large double column format, used for TOG
sigconf	Proceedings format for most of ACM conferences (with the exceptions listed below)
siggraph	Proceedings format for SIGGRAPH and SIGGRAPH Asia conferences, published in ACM Transactions on Graphics journal issues
sigplan	Proceedings format used for SIGPLAN conferences
sigchi	Proceedings format for SIGCHI conferences
sigchi-a	Format for SIGCHI extended abstract

The option `review` is useful when combined with the `manuscript` format option: it provides a version suitable for reviewers and copyeditors.

The option `screen` may in the future involve additional features suitable for on-screen versions of the articles.

The option `natbib` is used when the corresponding BibTeX style is based on `natbib`.

The option `anonymous` is used for anonymous review process: all author information becomes obscured.

2.3 Topmatter commands

A number of commands set up *top matter* information, or, in the computer science jargon, *metadata* for the article. They establish the publication name, article title, authors,

Table 2: Boolean options

Option	Default	Meaning
review	false	A review version: doublespaced, lines are numbered, hyperlinks are colored
screen	false	A screen version: hyperlinks are colored
natbib	false	Whether to use <code>natbib</code> package (see Section 2.9)
anonymous	false	Whether to make author(s) anonymous
authorversion	false	Whether to generate a special version for authors' personal use or posting (see Section 2.3)

doi and other data. Some of these commands, like `\title` or `\author`, should be put by the authors. Others, like `\acmVolume` or `\acmDOI`—by the editors. Below we describe these commands and mention who should issue them. These macros should be used *before* the `\maketitle` command. Note that in the previous versions of ACM classes some of these commands should be used before `\maketitle`, and some after it. Now they all must be used before `\maketitle`.

The class internally loads `amsart` class, so many top matter commands are inherited from `amsart` [2].

`\acmJournal` The macro `\acmJournal{<shortName>}` sets the name of the journal or transaction for journals and transactions. The argument is the short name of the publication *in uppercase*, for example,

```
\acmJournal{TOMS}
```

The currently recognized journals are listed in Table 3. Note that conference proceedings published in *book* form do not set this macro.

It is expected that this command is inserted by the author of the manuscript when she decides to which journal to submit the manuscript.

`\acmConference` The macro `\acmConference[<short name>]{<name>}{<date>}{<venue>}` is used for conference proceedings published in the book form. The arguments are the following:

short name: the abbreviated name of the conference (optional).

name: the name of the conference *or* the name of the book as set by the editor.

date: the date(s) of the conference.

venue: the place of the conference.

Examples:

```
\acmConference[TD'15]{Technical Data Conference}{November
12--16}{Dallas, TX, USA}
\acmConference{SA'15 Art Papers}{November 02--06, 2015}{Kobe, Japan}
```

Normally this command is entered either by the editor or by the typesetter.

`\title` The command `\title`, as in `amsart` class, has two arguments: one optional, and one mandatory:

```
\title[<ShortTitle>]{<FullTitle>}
```

The mandatory argument is the full title of the article. The optional argument, if present, defines the shorter version of the title for running heads. If the optional argument is absent, the full title is used instead.

It is expected that this command is inserted by the author of the manuscript.

`\subtitle` Besides title, ACM classes allow subtitle, set with the `\subtitle{<subtitle>}` macro.

`\author` The interface for specifying the authors and their affiliations is close the the one of
`\affiliation` `amsart` [3] (and different from the standard \LaTeX). For each author a separate command
`\email`

Table 3: ACM publications and arguments of the \acmJournal command

Abbreviation	Publication
CIE	ACM Computers in Entertainment
CSUR	ACM Computing Surveys
JACM	Journal of the ACM
JDIQ	ACM Journal of Data and Information Quality
JEA	ACM Journal of Experimental Algorithmics
JERIC	ACM Journal of Educational Resources in Computing
JETC	ACM Journal on Emerging Technologies in Computing Systems
JOCCH	ACM Journal on Computing and Cultural Heritage
TAAS	ACM Transactions on Autonomous and Adaptive Systems
TACCESS	ACM Transactions on Accessible Computing
TACO	ACM Transactions on Architecture and Code Optimization
TALG	ACM Transactions on Algorithms
TALLIP	ACM Transactions on Asian and Low-Resource Language Information Processing
TAP	ACM Transactions on Applied Perception
TCPS	ACM Transactions on Cyber-Physical Systems
TEAC	ACM Transactions on Economics and Computation
TECS	ACM Transactions on Embedded Computing Systems
TIIS	ACM Transactions on Interactive Intelligent Systems
TISSEC	ACM Transactions on Information and System Security
TIST	ACM Transactions on Intelligent Systems and Technology
TKDD	ACM Transactions on Knowledge Discovery from Data
TMIS	ACM Transactions on Management Information Systems
TOCE	ACM Transactions on Computing Education
TOCHI	ACM Transactions on Computer-Human Interaction
TOCL	ACM Transactions on Computational Logic
TOCS	ACM Transactions on Computer Systems
TOCT	ACM Transactions on Computation Theory
TODAES	ACM Transactions on Design Automation of Electronic Systems
TODS	ACM Transactions on Database Systems
TOG	ACM Transactions on Graphics
TOIS	ACM Transactions on Information Systems
TOIT	ACM Transactions on Internet Technology
TOMACS	ACM Transactions on Modeling and Computer Simulation
TOMM	ACM Transactions on Multimedia Computing, Communications and Applications
TOMPECS	ACM Transactions on Modeling and Performance Evaluation of Computing Systems
TOMS	ACM Transactions on Mathematical Software
TOPC	ACM Transactions on Parallel Computing
TOPLAS	ACM Transactions on Programming Languages and Systems
TOPS	ACM Transactions on Privacy and Security
TOS	ACM Transactions on Storage
TOSEM	ACM Transactions on Software Engineering and Methodology
TOSN	ACM Transactions on Sensor Networks
TRETS	ACM Transactions on Reconfigurable Technology and Systems
TSAS	ACM Transactions on Spatial Algorithms and Systems
TSC	ACM Transactions on Social Computing
TSLP	ACM Transactions on Speech and Language Processing
TWEB	ACM Transactions on the Web

`\author` should be used, followed by `\affiliation` and `\email`. If several authors share affiliations, in journal formats like `acmsmall` or `acmlarge` one may put the affiliation after all these authors, for example:

```
\author{A. U. Thor}
\email{author@nsw.au.edu}
\affiliation{University of New South Wales}
\author{A. N. Other}
\author{C. O. Respondent}
\affiliation{University of Pennsylvania}
```

In the cases of overlapping affiliations it is advisable to repeat the full list, for example,

```
\author{A. U. Thor}
\affiliation{University of New South Wales, Australia}
\email{author@nsw.edu.au}
\author{A. N. Other}
\affiliation{University of Pennsylvania, USA and University of New South
Wales, Australia}
\email{other@upenn.edu}
```

For *conferences* the affiliations should *always* be repeated, even if they are shared between the authors.

Note that old ACM conference formats did not allow for more than six authors and required some efforts from the authors to achieve alignment. The new format is much better in this.

It is expected that these commands are inserted by the author of the manuscript.

`\thanks` Like `amsart` (and unlike standard \LaTeX), we allow `\thanks` only *outside* of commands `\title` and `\author`. Example:

```
\thanks{This work is supported by the Widget Corporation Grant
\#312-001.\\
Author's address: D. Pineo, Kingsbury Hall, 33 Academic Way, Durham,
N.H. 03824; email: dspineo@comcast.net; Colin Ware, Jere A. Chase
Ocean Engineering Lab, 24 Colovos Road, Durham, NH 03824; email:
cware@ccom.unh.edu;
Sean Fogarty, (Current address) NASA Ames Research Center, Moffett
Field, California 94035.}
```

It is expected that this command is inserted by the author of the manuscript.

`\titlenote` While the command `\thanks` generates a note without footnote mark, sometimes
`\subtitlenote` the authors might need notes more tightly connected to the title, subtitle or author. The
`\authornote` commands `\titlenote`, `\subtitlenote` and `\authornote` that follow the corresponding
commands (`\title`, `\subtitle` and `\author`) generate such notes, for example

```
\title{This is a title}
\titlenote{This is a titlenote}
\author{A. U. Thor}
```

`\authornote{This is an authornote}`

`\acmVolume` The macros `\acmVolume`, `\acmNumber`, `\acmArticle`, `\acmYear` and `\acmMonth` are
`\acmNumber` inserted by the editor and set the journal volume, issue, article number, year and month
`\acmArticle` correspondingly. The arguments of all these commands, including `\acmMonth` is numer-
`\acmYear` ical, including `\acmMonth`, for example,
`\acmMonth`

```
\acmVolume{9}
\acmNumber{4}
\acmArticle{39}
\acmYear{2010}
\acmMonth{3}
```

`\acmArticleSeq` The articles in the same issue of a journal have *sequential number*. It is used to
position black blob in same formats. By default it is the same as article number, but the
command `\acmArticleSeq{<n>}` can be used to change it:

```
\acmArticle{39}    % The sequence number will be 39 by default
\acmArticleSeq{5} % We rededine it to 5
```

`\acmPrice` The macro `\acmPrice{<price>}` sets the price for the article (by default 15.00), for
example,

```
\acmPrice{25.00}
```

`\acmISBN` Book-like volumes have ISBN numbers attached to them. The macro `\acmISBN{<ISBN>}`
sets it. Normally it is set by the typesetter, for example,

```
\acmISBN{978-1-4503-3916-2}
```

`\acmDOI` The macro `\acmDOI{<DOI>}` sets the DOI number of the article, for example,

```
\acmDOI{10.1145/9999997.9999999}
```

It is normally set by the typesetter.

`\acmBadgeR` Some conference articles get special distinction, for example, the artifact evaluation
`\acmBadgeL` for PPOPP 2016 (see <http://ctuning.org/ae/ppopp2016.html>). These articles display
special badges supplied by the conference organizers. The class provides commands to
add these badges: `\acmBadgeR[<url>]{<graphics>}` and `\acmBadgeL[<url>]{<graphics>}`.
The first command puts the badge to the right of the title, and the second one—to the
left. The exception is the sigchi-a mode for SIGCHI Extended abstract, which puts
the badges on the left margin. The argument have the following meaning: `[<url>]`, if
provided, sets the link to the badge authority in the screen version, while `{<graphics>}`
sets the graphics file with the badge image. The file must be a cropped square, which is

scaled to a standard size in the output. For example, if the badge image is `ae-logo.pdf`, the command is

```
\acmBadgeR[http://ctuning.org/ae/ppopp2016.html]{ae-logo}
```

`\startPage` The macro `\startPage{<page>}` sets the first page of the article in the journal or book. It is used by the typesetter.

`\terms` The macros `\terms{<term, term,...>}` and `\keywords{<keyword, keyword,...>}` set the main terms and the additional keywords for the article. Term and keywords must be separated by commas, for example,

```
\terms{wireless, interference}
\keywords{wireless sensor networks, media access control,
multi-channel, radio interference, time synchronization}
```

`CCSXML` ACM publications are classified according to the ACM Computing Classification Scheme (CCS). CCS codes are used both in the typeset version of the publications *and* in the metadata in the various databases. Therefore you need to provide both \TeX commands and XML metadata with the paper.

The tool at <http://dl.acm.org/ccs.cfm> can be used to generate CCS codes. After you select the topics, click on “Generate CCS codes” to get the result like the following:

```
\begin{CCSXML}
<ccs2012>
  <concept>
    <concept_id>10010520.10010553.10010562</concept_id>
    <concept_desc>Computer systems organization~Embedded systems</concept_desc>
    <concept_significance>500</concept_significance>
  </concept>
  <concept>
    <concept_id>10010520.10010575.10010755</concept_id>
    <concept_desc>Computer systems organization~Redundancy</concept_desc>
    <concept_significance>300</concept_significance>
  </concept>
  <concept>
    <concept_id>10010520.10010553.10010554</concept_id>
    <concept_desc>Computer systems organization~Robotics</concept_desc>
    <concept_significance>100</concept_significance>
  </concept>
  <concept>
    <concept_id>10003033.10003083.10003095</concept_id>
    <concept_desc>Networks~Network reliability</concept_desc>
    <concept_significance>100</concept_significance>
  </concept>
</ccs2012>
\end{CCSXML}

\ccsdesc[500]{Computer systems organization~Embedded systems}
```

Table 4: Parameters for `\setcopyright` command

Parameter	Meaning
<code>none</code>	The copyright and permission information is not typeset (this is the option for some ACM conferences).
<code>acmcopyright</code>	The authors transfer the copyright to ACM (the “traditional” choice).
<code>acmlicensed</code>	The authors retain the copyright but license the publication rights to ACM.
<code>rightsretained</code>	The authors retain the copyright and publication rights to themselves or somebody else.
<code>usgov</code>	All the authors are employees of the US Government.
<code>usgovmixed</code>	Some authors are employees of the US Government.
<code>cagov</code>	All the authors are employees of the Canadian Government.
<code>cagovmixed</code>	Some authors are employees of the Canadian Government.

```
\ccsdesc[300]{Computer systems organization~Redundancy}
\ccsdesc{Computer systems organization~Robotics}
\ccsdesc[100]{Networks~Network reliability}
```

You need to just copy this code and paste it in your paper anywhere before `\maketitle`.

`\setcopyright` There are several possibilities for the copyright of the papers published by ACM: the authors may transfer the rights to ACM, license them to ACM, some or all authors might be employees of the US or Canada Government, etc. Accordingly the command `\setcopyright{...}` is introduced. Its argument is the copyright status of the paper, for example, `\setcopyright{acmcopyright}`. The possible values for this command are listed in Table 4.

The ACM submission software should generate the right command for you to paste into your file.

`\copyrightyear` Each copyright statement must have the year of copyright. By default it is the same as `\acmYear`, but you can override this decision using the macro `\copyrightyear`, e.g.,

```
\acmYear{2016}
\copyrightyear{2015}
```

There is a special case for a personal copy that the authors may be allowed to generate for their use or a posting on a personal site (check the instructions for the specific journal or conference for the details). The document option `authorversion=true` produces the special form of the copyright statement for this case. Note that you still need the `\setcopyright` command and (optionally) `\authoryear` command to tell T_EX about the copyright owner and year. Also, you should be aware that due to the different sizes of the permission blocks for the printed version and authors’ version the page breaks might be different between them.

Table 5: Settings for `\settopmatter` command

Parameter	Values	Meaning
<code>printccs</code>	true/false	Whether to print CCS categories
<code>printbib</code>	true/false	Whether to print ACM bibliographic entry

<code>abstract</code>	The environment <code>abstract</code> must <i>precede</i> <code>\maketitle</code> command. Again, this is different from the standard \LaTeX .
<code>teaserfigure</code>	<p>A special kind of figure is used for many two-column conference proceedings. This figure is placed just after the authors, but before the main text. The environment <code>teaserfigure</code> is used for these figures. This environment must be used <i>before</i> <code>\maketitle</code>, for example,</p> <pre> \begin{teaserfigure} \includegraphics[width=\textwidth]{sampleteaser} \caption{This is a teaser} \label{fig:teaser} \end{teaserfigure} </pre>
<code>\settopmatter</code>	<p>Some information in the top matter is printed for certain journals or proceedings and suppressed for others. You may override these defaults using the command <code>\settopmatter{<settings>}</code>. The settings and their meanings are listed in Table 5. For example,</p> <pre> \settopmatter{printbib=false, printccs=true} </pre>
<code>\received</code>	<p>The command <code>\received{<[<stage>]<date>}</code> sets the history of the publication. The <code><stage></code> argument is optional; the default is Received for the first date and revised for the subsequent ones. For example</p> <pre> \received{February 2007} \received[revised]{March 2009} \received[accepted]{June 2009} </pre>
<code>\maketitle</code>	The macro <code>\maketitle</code> must be the last command in the top matter group: i.e., it must follow the commands defined in this section.
<code>\shortauthors</code>	<p><i>After</i> the command <code>\maketitle</code> the macro <code>\shortauthors</code> stores the names of the authors for the running head. You may redefine it if the list of author's name is too long, e.g.,</p> <pre> \maketitle \renewcommand{\shortauthors}{Zhou et. al.} </pre>

2.4 Algorithms

There now several good packages for typesetting algorithms [4, 5, 6], and the authors are now free to choose their favorite one.

2.5 Figures and tables

New ACM styles use the standard \LaTeX interface for figures and tables. There are some important items to be aware of, however.

1. The captions for figures must be entered *after* the figure bodies, and for the tables *before* the table bodies.
2. ACM uses the standard types for figures and tables and adds several new ones. In total there are following types:

figure, table: a standard figure or table, taking full text width in one-column formats and one column in two-column formats.

figure*, table* in two-column formats, a special figure or table taking full text width.

teaserfigure: a special figure before `\maketitle`.

sidebar, marginfigure, margintable: in the sigchi-a format, special sidebars, tables and figures on the margin.

3. Accordingly, when scaling the images, one should use the following sizes:
 - (a) For figure in one-column mode, figure* in two-column mode or teaserfigure—`\textwidth` (in the one-column you can also use `\columnwidth`, which coincides with `\textwidth` in this case).
 - (b) For figure in two-column mode—`\columnwidth`.
 - (c) For marginfigure—`\marginparwidth`.
 - (d) For figure* in SIGCHI Extended abstracts—`\fulltextwidth`.

It is strongly recommended to use the package `booktabs` [7] and follow its main principles of typography with respect to tables:

1. Never, ever use vertical rules.
2. Never use double rules.

It is also a good idea not to overuse horizontal rules.

For table *footnotes* you have several options described in TeX FAQ [1]. The simplest one is to use `\minipage` environment:

```
\begin{table}
\caption{Simulation Configuration}
\label{tab:conf}
\begin{minipage}{\columnwidth}
```

```

\begin{center}
\begin{tabular}{ll}
\toprule
TERRAIN\footnote{This is a table footnote. This is a
    table footnote. This is a table footnote.} &
    (200\,m$\times$200\,m) Square\\
Node Number & 289\\
Node Placement & Uniform\\
Application & Many-to-Many/Gossip CBR Streams\\
Payload Size & 32 bytes\\
Routing Layer & GF\\
MAC Layer & CSMA/MMSN\\
Radio Layer & RADIO-ACCNOISE\\
Radio Bandwidth & 250Kbps\\
Radio Range & 20m--45m\\
\bottomrule
\end{tabular}
\end{center}
\bigskip
\footnotesize\emph{Source:} This is a table
sourcenote. This is a table sourcenote. This is a table
sourcenote.

\emph{Note:} This is a table footnote.
\end{minipage}
\end{table}

```

sidebar
 marginfigure
 margintable

SIGCHI extended abstract extensively uses margin space. The package provides three environments for this with option captions:

sidebar: textual information on the margin

marginfigure: a figure on the margin

margintable: a table on the margin

2.6 Theorems

ACM classes define two theorem styles and several pre-defined theorem environments:

acmplain: this is the style used for theorem, conjecture, proposition, lemma, corollary, and

acmdefinition: this is the style used for example and definition.

2.7 Online-only and offline-only material

printonly
 screenonly

Some supplementary material in ACM publication is put online, but not in the printed

version. The text inside the environment `screenonly` will be typeset only when the option `screen` (see Section 2.2) is set to `true`. Conversely, the text inside the environment `printonly` is typeset only when this option is set to `false`. For example

```
\section{Supplementary materials}

\begin{printonly}
  This section is included in the online version of the paper.
\end{printonly}

\begin{screenonly}
  (The actual section).
\end{screenonly}
```

2.8 Note about anonymous mode

`anonsuppress` When the option `anonymous` is selected, \TeX suppresses author information (including number of authors) for a blind review. However, sometimes the information identifying the authors may be present in the body of the paper, for example, in the acknowledgements. The environment `anonsuppress` is used to suppress such information, for example

```
\section*{Acknowledgements}
\begin{anonsuppress}
  The authors wish to thank Prof. C.~O.~Lleague for her generous
  advices and the Society for Development of Oort Cloud for the
  financial support.
\end{anonsuppress}
```

2.9 Bibliography

The Boolean option `natbib` selects whether to use `natbib` package for bibliography. If you use `natbib`, then commands like `\citep` and `\citeauthor` are automatically supported. You may customize `\natbib` using `\setcitestyle` command, for example,

```
\setcitestyle{numbers,sort&compress}
```

ACM journals use `natbib` and the style `ACM-Reference-Format-Journals`.

Most ACM conference proceedings do *not* use `natbib`. SIGGRAPH conferences use `acmsiggraph` style. SIGCHI conferences use `SIGCHI-Reference-Format` style. The other conferences employ one of the four styles:

1. `acm-abbrev`
2. `acm-alpha`

3. acm-plain

4. acm-unsrt

The author should consult specific instructions about the style to choose.

2.10 Colors

While printed ACM publications are usually black and white, screen mode allows the use of colors. The ACM classes pre-define several colors according to [8]: ACMBBlue, ACMYellow, ACMOrange, ACMRed, ACMLightBlue, ACMGreen, ACMPurple, ACMDarkBlue. You can use them in the color assignments.

3 Implementation

3.1 Identification

We start with the declaration who we are. Most .dtx files put driver code in a separate driver file .drv. We roll this code into the main file, and use the pseudo-guard <gobble> for it.

```
1 <class>\NeedsTeXFormat{LaTeX2e}
2 <*gobble>
3 \ProvidesFile{acmart.dtx}
4 </gobble>
5 <class>\ProvidesClass{acmart}
6 [2016/05/03 v1.07 Typesetting articles for Association of
7 Computing Machinery]
```

And the driver code:

```
8 <*gobble>
9 \documentclass{ltxdoc}
10 \usepackage{array,booktabs,amsmath,graphicx,fancyvrb,tabularx}
11 \usepackage[tt=false]{libertine}
12 \usepackage[varqu]{zi4}
13 \usepackage[libertine]{newtxmath}
14 \usepackage[tableposition=top]{caption}
15 \usepackage{hypdoc}
16 \PageIndex
17 \CodelineIndex
18 \RecordChanges
19 \EnableCrossrefs
20 \begin{document}
21   \DocInput{acmart.dtx}
22 \end{document}
23 </gobble>
24 <*class>
25 \def\@classname{acmart}
```

3.2 Options

We need xkeyval since some of our options may have values:

```
26 \RequirePackage{xkeyval}
```

format The possible formats

```
27 \define@choicekey*+{acmart.cls}{format}[\ACM@format\ACM@format@nr]{%
28   manuscript, acmsmall, acmlarge, acmtog, sigconf, siggraph,
29   sigplan, sigchi, sigchi-a}[manuscript]{}{%
30   \ClassError{\@classname}{The option format must be manuscript,
31     acmsmall, acmlarge, acmtog, sigconf, siggraph,
32     sigplan, sigchi or sigchi-a}}
33 \def\@DeclareACMFormat#1{\DeclareOptionX{#1}{\setkeys{acmart.cls}{format=#1}}}
34 \@DeclareACMFormat{manuscript}
```

```

35 \@DeclareACMFormat{acmsmall}
36 \@DeclareACMFormat{acmlarge}
37 \@DeclareACMFormat{acmtog}
38 \@DeclareACMFormat{sigconf}
39 \@DeclareACMFormat{siggraph}
40 \@DeclareACMFormat{sigplan}
41 \@DeclareACMFormat{sigchi}
42 \@DeclareACMFormat{sigchi-a}
43 \ExecuteOptionsX{format}

\if@ACM@screen Whether we use screen mode
44 \define@boolkey+{acmart.cls}[@ACM@]{screen}[true]{%
45   \if@ACM@screen
46     \PackageInfo{\@classname}{Using screen mode}%
47   \else
48     \PackageInfo{\@classname}{Not using screen mode}%
49   \fi}{\PackageError{\@classname}{Option screen can be either true or
50     false}}
51 \ExecuteOptionsX{screen=false}

\if@ACM@review Whether we use review mode
52 \define@boolkey+{acmart.cls}[@ACM@]{review}[true]{%
53   \if@ACM@review
54     \PackageInfo{\@classname}{Using review mode}%
55   \else
56     \PackageInfo{\@classname}{Not using review mode}%
57   \fi}{\PackageError{\@classname}{Option review can be either true or
58     false}}
59 \ExecuteOptionsX{review=false}

\if@ACM@authorversion Whether we use author's version
60 \define@boolkey+{acmart.cls}[@ACM@]{authorversion}[true]{%
61   \if@ACM@authorversion
62     \PackageInfo{\@classname}{Using authorversion mode}%
63   \else
64     \PackageInfo{\@classname}{Not using authorversion mode}%
65   \fi}{\PackageError{\@classname}{Option authorversion can be either true or
66     false}}
67 \ExecuteOptionsX{authorversion=false}

\if@ACM@natbib Whether we use natbib mode
68 \define@boolkey+{acmart.cls}[@ACM@]{natbib}[true]{%
69   \if@ACM@natbib
70     \PackageInfo{\@classname}{Using natbib mode}%
71   \else
72     \PackageInfo{\@classname}{Not using natbib mode}%
73   \fi}{\PackageError{\@classname}{Option natbib can be either true or
74     false}}
75 \ExecuteOptionsX{natbib=false}

```

```

\if@ACM@anonymous Whether we use anonymous mode
76 \define@boolkey+{acmart.cls}[@ACM@]{anonymous}[true]{%
77   \if@ACM@anonymous
78     \PackageInfo{\@classname}{Using anonymous mode}%
79   \else
80     \PackageInfo{\@classname}{Not using anonymous mode}%
81   \fi}{\PackageError{\@classname}{Option anonymous can be either true or
82     false}}
83 \ExecuteOptionsX{anonymous=false}

```

```

\ACM@fontsize The font size to pass to the base class
84 \def\ACM@fontsize{
85   \DeclareOptionX{9pt}{\edef\ACM@fontsize{\CurrentOption}}
86   \DeclareOptionX{10pt}{\edef\ACM@fontsize{\CurrentOption}}
87   \DeclareOptionX{11pt}{\edef\ACM@fontsize{\CurrentOption}}
88   \DeclareOptionX{12pt}{\edef\ACM@fontsize{\CurrentOption}}

89   \DeclareOptionX{draft}{\PassOptionsToClass{\CurrentOption}{amsart}}
90   \DeclareOptionX{*}{\PassOptionsToClass{\CurrentOption}{amsart}}
91   \ProcessOptionsX
92   \ClassInfo{\@classname}{Using format \ACM@format, number \ACM@format@nr}

```

3.3 Setting switches

```

\if@ACM@manuscript Whether we use manuscript mode
93 \newif\if@ACM@manuscript

\if@ACM@journal There are two kinds of publications: journals and books
94 \newif\if@ACM@journal

\if@ACM@sigchiamode The formatting of SIGCHI abstracts is quite unusual. We have a special switch for them.
95 \newif\if@ACM@sigchiamode

Setting up switches
96 \ifnum\ACM@format@nr=0\relax
97   \@ACM@manuscripttrue
98 \else
99   \@ACM@manuscriptfalse
100 \fi
101 \@ACM@sigchiamodefalse
102 \ifcase\ACM@format@nr
103 \relax % manuscript
104   \@ACM@journaltrue
105 \or % acmsmall
106   \@ACM@journaltrue
107 \or % acmlarge
108   \@ACM@journaltrue
109 \or % acmtog

```

```

110 \ACM@journaltrue
111 \or % sigconf
112 \ACM@journalfalse
113 \or % siggraph
114 \ACM@journalfalse
115 \or % sigplan
116 \ACM@journalfalse
117 \or % sigchi
118 \ACM@journalfalse
119 \or % sigchi-a
120 \ACM@journalfalse
121 \ACM@sigchiamodetrue
122 \fi

```

3.4 Loading base class and package

At this point we either have \ACM@fontsize, or use defaults

```

123 \ifx\ACM@fontsize\@empty
124 \ifcase\ACM@format@nr
125 \relax % manuscript
126 \def\ACM@fontsize{9pt}%
127 \or% acmsmall
128 \def\ACM@fontsize{10pt}%
129 \or % acmlarge
130 \def\ACM@fontsize{9pt}%
131 \or % acmtog
132 \def\ACM@fontsize{9pt}%
133 \or % sigconf
134 \def\ACM@fontsize{9pt}%
135 \or % siggraph
136 \def\ACM@fontsize{9pt}%
137 \or % sigplan
138 \def\ACM@fontsize{9pt}%
139 \or % sigchi
140 \def\ACM@fontsize{10pt}%
141 \or % sigchi-a
142 \def\ACM@fontsize{10pt}%
143 \fi
144 \fi
145 \ClassInfo{\@classname}{Using fontsize \ACM@fontsize}
146 \LoadClass[\ACM@fontsize, reqno]{amsart}
147 \RequirePackage{microtype}

```

We need totpages package to calculate the number of pages

```

148 \RequirePackage{totpages}

```

The amsmath \collect@body is defined using \def. We load environ to access the \long version of the command

```

149 \RequirePackage{environ}

```

We use setspace for doublespacing

```
150 \if@ACM@manuscript
151 \RequirePackage{setspace}
152 \onehalfspacing
153 \fi
```

Citations. We patch \setcitestyle to allow, e.g., \setcitestyle{sort} and \setcitestyle{nosort}

```
154 \if@ACM@natbib
155 \RequirePackage{natbib}
156 \renewcommand{\bibfont}{\bibliofont}
157 \renewcommand\setcitestyle[1]{
158 \@for\@tempa:=#1\do
159 {\def\@tempb{round}\ifx\@tempa\@tempb
160 \renewcommand\NAT@open{(\renewcommand\NAT@close{)}\fi
161 \def\@tempb{square}\ifx\@tempa\@tempb
162 \renewcommand\NAT@open{[\renewcommand\NAT@close{]}\fi
163 \def\@tempb{angle}\ifx\@tempa\@tempb
164 \renewcommand\NAT@open{$<\renewcommand\NAT@close{$>}\fi
165 \def\@tempb{curly}\ifx\@tempa\@tempb
166 \renewcommand\NAT@open{\{\renewcommand\NAT@close{\}}\fi
167 \def\@tempb{semicolon}\ifx\@tempa\@tempb
168 \renewcommand\NAT@sep{;}\fi
169 \def\@tempb{colon}\ifx\@tempa\@tempb
170 \renewcommand\NAT@sep{:}\fi
171 \def\@tempb{comma}\ifx\@tempa\@tempb
172 \renewcommand\NAT@sep{,}\fi
173 \def\@tempb{authoryear}\ifx\@tempa\@tempb
174 \NAT@numbersfalse\fi
175 \def\@tempb{numbers}\ifx\@tempa\@tempb
176 \NAT@numberstrue\NAT@superfalse\fi
177 \def\@tempb{super}\ifx\@tempa\@tempb
178 \NAT@numberstrue\NAT@supertrue\fi
179 \def\@tempb{nobibstyle}\ifx\@tempa\@tempb
180 \let\bibstyle=\@gobble\fi
181 \def\@tempb{bibstyle}\ifx\@tempa\@tempb
182 \let\bibstyle=\@citestyle\fi
183 \def\@tempb{sort}\ifx\@tempa\@tempb
184 \def\NAT@sort{\@ne}\fi
185 \def\@tempb{nosort}\ifx\@tempa\@tempb
186 \def\NAT@sort{\z@}\fi
187 \def\@tempb{compress}\ifx\@tempa\@tempb
188 \def\NAT@cmprs{\@ne}\fi
189 \def\@tempb{nocompress}\ifx\@tempa\@tempb
190 \def\NAT@cmprs{\@z}\fi
191 \def\@tempb{sort&compress}\ifx\@tempa\@tempb
192 \def\NAT@sort{\@ne}\def\NAT@cmprs{\@ne}\fi
193 \def\@tempb{mcite}\ifx\@tempa\@tempb
194 \let\NAT@merge\@ne\fi
195 \def\@tempb{merge}\ifx\@tempa\@tempb
```

```

196 \ifnum{\NAT@merge<\tw@}{\let\NAT@merge\tw@}\fi
197 \def\@tempb{elide}\ifx\@tempa\@tempb
198 \ifnum{\NAT@merge<\thr@}{\let\NAT@merge\thr@}\fi
199 \def\@tempb{longnamesfirst}\ifx\@tempa\@tempb
200 \NAT@longnamestrue\fi
201 \def\@tempb{nonamebreak}\ifx\@tempa\@tempb
202 \def\NAT@nmfmt#1{\mbox{\NAT@up#1}}\fi
203 \expandafter\NAT@find@eq\@tempa=\relax\@nil
204 \if\@tempc\relax\else
205 \expandafter\NAT@rem@eq\@tempc
206 \def\@tempb{open}\ifx\@tempa\@tempb
207 \xdef\NAT@open{\@tempc}\fi
208 \def\@tempb{close}\ifx\@tempa\@tempb
209 \xdef\NAT@close{\@tempc}\fi
210 \def\@tempb{aysep}\ifx\@tempa\@tempb
211 \xdef\NAT@aysep{\@tempc}\fi
212 \def\@tempb{yysep}\ifx\@tempa\@tempb
213 \xdef\NAT@yrsep{\@tempc}\fi
214 \def\@tempb{notesep}\ifx\@tempa\@tempb
215 \xdef\NAT@cmt{\@tempc}\fi
216 \def\@tempb{citesep}\ifx\@tempa\@tempb
217 \xdef\NAT@sep{\@tempc}\fi
218 \fi
219 }%
220 \NAT@@setcites
221 }
222 \setcitestyle{%
223 open={[]},close={[]},citesep={;},%
224 authoryear,aysep={},yysep={,},%
225 notesep={, }}
226 \fi

```

Before we call `hyperref`, we redefine `\startsection` commands to their \LaTeX defaults, since `amsart` ones are too AMS-specific. We need to do this early since we want `hyperref` to have a chance to redefine them again:

```

227 \def\@startsection#1#2#3#4#5#6{%
228 \if@noskipsec \leavevmode \fi
229 \par
230 \@tempskipa #4\relax
231 \@afterindenttrue
232 \ifdim \@tempskipa <\z@
233 \@tempskipa -\@tempskipa \@afterindentfalse
234 \fi
235 \if@nobreak
236 \everypar{}%
237 \else
238 \addpenalty\@secpenalty\addvspace\@tempskipa
239 \fi
240 \ifstar
241 {\@ssect{#3}{#4}{#5}{#6}}%

```

```

242     {\@dblarg{\@sect{#1}{#2}{#3}{#4}{#5}{#6}}}}
243 \def\@sect#1#2#3#4#5#6[#7]#8{%
244     \ifnum #2>\c@secnumdepth
245         \let\@svsec\@empty
246     \else
247         \refstepcounter{#1}%
248         \protected@edef\@svsec{\@seccntformat{#1}\relax}%
249     \fi
250     \@tempskipa #5\relax
251     \ifdim \@tempskipa>\z@
252         \begingroup
253             #6{%
254                 \@hangfrom{\hskip #3\relax\@svsec}%
255                 \interlinepenalty \@M #8\@par}%
256         \endgroup
257         \csname #1mark\endcsname{#7}%
258         \addcontentsline{toc}{#1}{%
259             \ifnum #2>\c@secnumdepth \else
260                 \protect\numberline{\csname the#1\endcsname}%
261             \fi
262             #7}%
263     \else
264         \def\@svsechd{%
265             #6{\hskip #3\relax
266                 \@svsec #8}%
267             \csname #1mark\endcsname{#7}%
268             \addcontentsline{toc}{#1}{%
269                 \ifnum #2>\c@secnumdepth \else
270                     \protect\numberline{\csname the#1\endcsname}%
271                 \fi
272                 #7}}%
273     \fi
274     \@xsect{#5}}
275 \def\@xsect#1{%
276     \@tempskipa #1\relax
277     \ifdim \@tempskipa>\z@
278         \par \nobreak
279         \vskip \@tempskipa
280         \@afterheading
281     \else
282         \@nobreakfalse
283         \global\@noskipsectrue
284         \everypar{%
285             \if@noskipsec
286                 \global\@noskipsecfalse
287                 {\setbox\z@\lastbox}%
288                 \clubpenalty\@M
289             \begingroup \@svsechd \endgroup
290             \unskip
291             \@tempskipa #1\relax

```

```

292      \hskip -\@tempskipa
293      \else
294      \clubpenalty \@clubpenalty
295      \everypar{}%
296      \fi}%
297 \fi
298 \ignorespaces}
299 \def\@secntformat#1{\csname the#1\endcsname\quad}
300 \def\@essect#1#2#3#4#5{%
301   \@tempskipa #3\relax
302   \ifdim \@tempskipa>\z@
303     \begingroup
304       #4{%
305         \@hangfrom{\hskip #1}%
306         \interlinepenalty \@M #5\@par}%
307     \endgroup
308   \else
309     \def\@svsechd{#4{\hskip #1\relax #5}}%
310   \fi
311   \@xsect{#3}}

```

And hyperref

```

312 \let\@footnotemark@nolink\@footnotemark
313 \let\@footnotetext@nolink\@footnotetext
314 \RequirePackage{hyperref}
315 \if@ACM@sigchiamode
316   \urlstyle{sf}
317 \else
318   \urlstyle{rm}
319 \fi
320 \if@ACM@screen
321   \hypersetup{colorlinks,
322     linkcolor=ACMRed,
323     citecolor=ACMPurple,
324     urlcolor=ACMDarkBlue,
325     filecolor=ACMDarkBlue}
326 \else
327   \hypersetup{hidelinks}
328 \fi

```

Bibliography mangling. Siggraph does not want the label.

```

329 \if@ACM@natbib
330   \let\citeN\cite
331   \let\cite\citep
332   \let\citeANP\citeauthor
333   \let\citeNN\citeyearpar
334   \let\citeyearNP\citeyear
335   \let\citeyear\citeyearpar
336   \let\citeNP\citealt
337   \def\shortcite#1{\citeyear{#1}}
338   \DeclareRobustCommand\citeA

```

```

339     {\begingroup\NAT@swafalse
340       \let\NAT@ctype\@ne\NAT@partrue\NAT@fullfalse\NAT@open\NAT@citetp}
341   \providecommand\newblock{}
342 \else
343   \providecommand\citename[1]{#1}
344 \fi
345 \ifcase\ACM@format@nr
346 \relax % manuscript
347 \or% acmsmall
348 \or % acmlarge
349 \or % acmtog
350 \or % sigconf
351 \or % siggraph
352   \def\@biblabel#1{}
353   \ifx\bibhang\@undefined
354     \newlength\bibhang
355   \fi
356   \setlength\bibhang{1em}
357   \renewenvironment{thebibliography}[1]{%
358     \@bibtitlestyle
359     \normalfont\bibliofont\labelsep .5em\relax
360     \renewcommand\theenumiv{\arabic{enumiv}}\let\p@enumiv\@empty
361     \list{\@biblabel{\theenumiv}}{\labelwidth\z@
362       \setlength\itemindent{-\bibhang}%
363       \setlength\leftmargin{\bibhang}%
364       \labelsep\z@
365       \def\newblock{\hspace .11em plus .33em minus .07em}%
366       \usecounter{enumiv}}%
367     \sloppy \clubpenalty\@M \widowpenalty\clubpenalty
368     \sfcode'\@m
369   }{%
370     \def\@noitemerr{\@latex@warning{Empty 'thebibliography' environment}}%
371   \endlist
372 }
373 \or % sigplan
374 \or % sigchi
375 \or % sigchi-a
376 \fi

```

Graphics and color

```

377 \RequirePackage{graphicx, xcolor}

```

We define ACM colors according to [8]:

```

378 \definecolor[named]{ACMBlue}{cmyk}{1,0.1,0,0.1}
379 \definecolor[named]{ACMYellow}{cmyk}{0,0.16,1,0}
380 \definecolor[named]{ACMOrange}{cmyk}{0,0.42,1,0.01}
381 \definecolor[named]{ACMRed}{cmyk}{0,0.90,0.86,0}
382 \definecolor[named]{ACMLightBlue}{cmyk}{0.49,0.01,0,0}
383 \definecolor[named]{ACMGreen}{cmyk}{0.20,0,1,0.19}
384 \definecolor[named]{ACMPurple}{cmyk}{0.55,1,0,0.15}
385 \definecolor[named]{ACMDarkBlue}{cmyk}{1,0.58,0,0.21}

```

3.5 Paper size and paragraphing

We use geometry for dimensions

```
386 \RequirePackage{geometry}
387 \ifcase\ACM@format@nr
388 \relax % manuscript
389   \geometry{letterpaper,head=1pc}%
390 \or% acmsmall
391   \geometry{twoside=true,
392     includeheadfoot, head=1pc, foot=2pc,
393     paperwidth=6.75in, paperheight=10in,
394     top=58pt, bottom=44pt, inner=46pt, outer=46pt
395   }%
396 \or % acmlarge
397   \geometry{twoside=true, head=1pc, foot=2pc,
398     paperwidth=8.5in, paperheight=11in,
399     includeheadfoot,
400     top=78pt, bottom=114pt, inner=81pt, outer=81pt
401   }%
402 \or % acmtog
403   \geometry{twoside=true, head=1pc, foot=2pc,
404     paperwidth=8.5in, paperheight=11in,
405     includeheadfoot, columnsep=24pt,
406     top=52pt, bottom=75pt, inner=52pt, outer=52pt
407   }%
408 \or % sigconf
409   \geometry{twoside=true, head=1pc,
410     paperwidth=8.5in, paperheight=11in,
411     includeheadfoot, columnsep=2pc,
412     top=57pt, bottom=75pt, inner=54pt, outer=57pt
413   }%
414 \or % siggraph
415   \geometry{twoside=true, head=1pc,
416     paperwidth=8.5in, paperheight=11in,
417     includeheadfoot, columnsep=2pc,
418     top=57pt, bottom=75pt, inner=54pt, outer=57pt
419   }%
420 \or % sigplan
421   \geometry{twoside=true, head=1pc,
422     paperwidth=8.5in, paperheight=11in,
423     includeheadfoot, columnsep=2pc,
424     top=74pt, bottom=70pt, inner=54pt, outer=54pt
425   }%
426 \or % sigchi
427   \geometry{twoside=true, head=1pc,
428     paperwidth=8.5in, paperheight=11in,
429     includeheadfoot, columnsep=2pc,
430     top=66pt, bottom=78pt, inner=54pt, outer=48pt
431   }%
432 \or % sigchi-a
```

```

433 \geometry{twoside=false, head=1pc,
434     paperwidth=11in, paperheight=8.5in,
435     includeheadfoot, marginparsep=72pt,
436     marginparwidth=170pt, columnsep=20pt,
437     top=72pt, bottom=72pt, left=314pt, right=72pt
438 }%
439 \@mparswitchfalse
440 \reversemarginpar
441 \fi

\parindent Paragraphing
\parskip
442 \setlength\parindent{10\p@}
443 \setlength\parskip{\z@}
444 \ifcase\ACM@format@nr
445 \relax % manuscript
446 \or% acmsmall
447 \or % acmlarge
448 \or % acmtog
449 \setlength\parindent{9\p@}%
450 \or % sigconf
451 \or % siggraph
452 \or % sigplan
453 \or % sigchi
454 \or % sigchi-a
455 \fi

Footnotes require some consideration. We have several layers of footnotes: front-
matter footnotes, “regular” footnotes and the special insert for bibstrip. In the old ACM
classes bibstrip was a \@float. The problem with floats is that they tend to, well, float—
and we want the guarantee they stay.

456 \RequirePackage{manyfoot}
457 \DeclareNewFootnote{copyrightpermission}
458 \skip\footinscopyrightpermission=0.1\baselineskip plus 0.1\baselineskip

\footnoterule Tschichold’s rules:
459 \def\footnoterule{\kern-3\p@
460 \hrule \@width \columnwidth \kern 2.6\p@}

\endminipage We do not use footnote rules in minipages
461 \def\endminipage{%
462 \par
463 \unskip
464 \ifvoid\@mpfootins\else
465 \vskip\skip\@mpfootins
466 \normalcolor
467 \unvbox\@mpfootins
468 \fi
469 \@minipagefalse %% added 24 May 89
470 \color@endgroup

```

```

471 \egroup
472 \expandafter\@iiiparbox\@mpargs{\unvbox\@tempboxa}}
473
\@makefnmark We do note use indentation for footnotes
474 \def\@makefnmark{\noindent\@makefnmark}

\@footnotetext In sigchi-a mode our footnotes are on the margins!
475 \if@ACM@sigchiamode
476 \long\def\@footnotetext#1{\marginpar{%
477     \reset@font\small
478     \interlinepenalty\interfootnotelinepenalty
479     \protected@edef\@currentlabel{%
480         \csname p@footnote\endcsname\@thefnmark
481     }%
482     \color@begingroup
483         \@makefnmark{#1}
484         \rule{z@footnotesep}{\ignorespaces#1}\@finalstrut\strutbox}%
485     \color@endgroup}}%
486 \fi

```

3.6 Fonts

We use Times throughout

```

487 \usepackage[tt=false]{libertine}
488 \usepackage[varqu]{zi4}
489 \usepackage[libertine]{newtxmath}

```

The SIGCHI extended abstracts are sans serif:

```

490 \if@ACM@sigchiamode
491 \renewcommand{\familydefault}{\sfdefault}
492 \fi

```

3.7 Floats

We use caption package

```

493 \RequirePackage{caption, float}
494 \captionsetup[table]{position=top}
495 \if@ACM@journal
496 \captionsetup{labelfont={sf, small},
497     textfont={sf, small}, margin=\z@}
498 \captionsetup[figure]{name={Fig.}}
499 \else
500 \captionsetup{labelfont={bf},
501     textfont={bf}, labelsep=colon, margin=\z@}
502 \ifcase\ACM@format@nr
503 \relax % manuscript
504 \or% acmsmall
505 \or % acmlarge

```

```

506 \or % acmtog
507 \or % sigconf
508 \or % siggraph
509 \captionsetup{textfont={it}}
510 \or % sigplan
511 \or % sigchi
512 \captionsetup[figure]{labelfont={bf, small},
513 textfont={bf, small}}
514 \or % sigchi-a
515 \captionsetup[figure]{labelfont={bf, small},
516 textfont={bf, small}}
517 \fi
518 \fi

sidebar The sidebar environment:
519 \newfloat{sidebar}{}{sbar}
520 \floatname{sidebar}{Sidebar}
521 \renewenvironment{sidebar}{\Collect@Body\@sidebar}{}

\@sidebar The processing of the saved text
522 \long\def\@sidebar#1{\bgroup\captionsetup{type=sidebar}%
523 \marginpar{\small#1}\egroup}

marginfigure The marginfigure environment:
524 \newenvironment{marginfigure}{\Collect@Body\@marginfigure}{}

\@marginfigure The processing of the saved text
525 \long\def\@marginfigure#1{\bgroup\captionsetup{type=figure}%
526 \marginpar{\small#1}\egroup}

margintable The margintable environment:
527 \newenvironment{margintable}{\Collect@Body\@margintable}{}

\@margintable The processing of the saved text
528 \long\def\@margintable#1{\bgroup\captionsetup{type=table}%
529 \marginpar{\small#1}\egroup}

SIGCHI extended abstract provides an interesting possibility to push into the margin.
Here we use figure* and table* for this.

\fulltextwidth We define the width of the boxes as
530 \newdimen\fulltextwidth
531 \fulltextwidth=\dimexpr(\textwidth+\marginparwidth+\marginparsep)

\@dblfloat We redefine the double float command. First, we make the size bigger. Second, our
default position is going to be tp (to give marginalia a chance)
532 \if@ACM@sigchiamode
533 \def\@dblfloat{\bgroup\columnwidth=\fulltextwidth
534 \let\@endfloatbox\@endwidefloatbox

```

```

535 \def\@fpsadddefault{\def\@fps{tp}}%
536 \@float}
537 \fi

\end@dblfloat And the end. Just adding a \bgroup.
538 \if@ACM@sigchiamode
539 \def\end@dblfloat{%
540 \end@float\egroup}
541 \fi

\@endwidefloatbox This is the end of a wide box - we basically move everything to the left
542 \def\@endwidefloatbox{%
543 \par\vskip\z@skip
544 \@minipagefalse
545 \outer@nobreak
546 \egroup
547 \color@endbox
548 \global\setbox\@currbox=\vbox{\moveleft
549 \dimexpr(\fulltextwidth-\textwidth)\box\@currbox}%
550 \wd\@currbox=\textwidth
551 }

```

3.8 Top matter data

We use keyval interface to define journal title and relevant information

```

552 \define@choicekey*+{ACM}{acmJournal}[\@journalCode\@journalCode@nr]{%
553 CIE,%
554 CSUR,%
555 JACM,%
556 JDIQ,%
557 JEA,%
558 JERIC,%
559 JETC,%
560 JOCCH,%
561 TAAS,%
562 TACCESS,%
563 TACO,%
564 TALG,%
565 TALLIP,%
566 TAP,%
567 TCPS,%
568 TEAC,%
569 TECS,%
570 TIIS,%
571 TISSEC,%
572 TIST,%
573 TKDD,%
574 TMIS,%
575 TOCE,%

```

```

576 TOCHI,%
577 TOCL,%
578 TOCS,%
579 TOCT,%
580 TODAES,%
581 TODS,%
582 TOG,%
583 TOIS,%
584 TOIT,%
585 TOMACS,%
586 TOMM,%
587 TOMPECS,%
588 TOMS,%
589 TOPC,%
590 TOPS,%
591 TOPLAS,%
592 TOS,%
593 TOSEM,%
594 TOSN,%
595 TRETS,%
596 TSAS,%
597 TSC,%
598 TSLP,%
599 TWEB%
600 }{%
601 \ifcase\@journalCode@nr
602 \relax % CIE
603 \def\@journalName{ACM Computers in Entertainment}%
604 \def\@journalNameShort{ACM Comput. Entertain.}%
605 \def\@permissionCodeOne{1544-3574}%
606 \or % CSUR
607 \def\@journalName{ACM Computing Surveys}%
608 \def\@journalNameShort{ACM Comput. Surv.}%
609 \def\@permissionCodeOne{0360-0300}%
610 \or % JACM
611 \def\@journalName{Journal of the ACM}%
612 \def\@journalNameShort{J. ACM}%
613 \def\@permissionCodeOne{0004-5411}%
614 \or % JDIQ
615 \def\@journalName{ACM Journal of Data and Information Quality}%
616 \def\@journalNameShort{ACM J. Data Inform. Quality}%
617 \def\@permissionCodeOne{1936-1955}%
618 \or % JEA
619 \def\@journalName{ACM Journal of Experimental Algorithmics}%
620 \def\@journalNameShort{ACM J. Exp. Algor.}%
621 \def\@permissionCodeOne{1084-6654}%
622 \or % JERIC
623 \def\@journalName{ACM Journal of Educational Resources in Computing}%
624 \def\@journalNameShort{ACM J. Edu. Resources in Comput.}%
625 \def\@permissionCodeOne{1073-0516}%

```

```

626 \or % JETC
627 \def\@journalName{ACM Journal on Emerging Technologies in Computing Systems}%
628 \def\@journalNameShort{ACM J. Emerg. Technol. Comput. Syst.}%
629 \def\@permissionCodeOne{1550-4832}%
630 \or % JOCCH
631 \def\@journalName{ACM Journal on Computing and Cultural Heritage}%
632 \def\@journalNameShort{ACM J. Comput. Cult. Herit.}%
633 \or % TAAS
634 \def\@journalName{ACM Transactions on Autonomous and Adaptive Systems}%
635 \def\@journalNameShort{ACM Trans. Autonom. Adapt. Syst.}%
636 \def\@permissionCodeOne{1556-4665}%
637 \or % TACCESS
638 \def\@journalName{ACM Transactions on Accessible Computing}%
639 \def\@journalNameShort{ACM Trans. Access. Comput.}%
640 \def\@permissionCodeOne{1936-7228}%
641 \or % TACO
642 \def\@journalName{ACM Transactions on Architecture and Code Optimization}%
643 \or % TALG
644 \def\@journalName{ACM Transactions on Algorithms}%
645 \def\@journalNameShort{ACM Trans. Algor.}%
646 \def\@permissionCodeOne{1549-6325}%
647 \or % TALLIP
648 \def\@journalName{ACM Transactions on Asian and Low-Resource Language Information Processing}%
649 \def\@journalNameShort{ACM Trans. Asian Low-Resour. Lang. Inf. Process.}%
650 \def\@permissionCodeOne{2375-4699}%
651 \or % TAP
652 \def\@journalName{ACM Transactions on Applied Perception}%
653 \or % TCPS
654 \def\@journalName{ACM Transactions on Cyber-Physical Systems}%
655 \or % TEAC
656 \def\@journalName{ACM Transactions on Economics and Computation}%
657 \or % TECS
658 \def\@journalName{ACM Transactions on Embedded Computing Systems}%
659 \def\@journalNameShort{ACM Trans. Embedd. Comput. Syst.}%
660 \def\@permissionCodeOne{1539-9087}%
661 \or % TIIS
662 \def\@journalName{ACM Transactions on Interactive Intelligent Systems}%
663 \def\@journalNameShort{ACM Trans. Interact. Intell. Syst.}%
664 \def\@permissionCodeOne{2160-6455}%
665 \or % TISSEC
666 \def\@journalName{ACM Transactions on Information and System Security}%
667 \def\@journalNameShort{ACM Trans. Info. Syst. Sec.}%
668 \def\@permissionCodeOne{1094-9224}%
669 \or % TIST
670 \def\@journalName{ACM Transactions on Intelligent Systems and Technology}%
671 \def\@journalNameShort{ACM Trans. Intell. Syst. Technol.}%
672 \def\@permissionCodeOne{2157-6904}%
673 \or % TKDD
674 \def\@journalName{ACM Transactions on Knowledge Discovery from Data}%
675 \def\@journalNameShort{ACM Trans. Knowl. Discov. Data}%

```

```

676 \def\@permissionCodeOne{1556-4681}%
677 \or % TMIS
678 \def\@journalName{ACM Transactions on Management Information Systems}%
679 \def\@journalNameShort{ACM Trans. Manag. Inform. Syst.}%
680 \def\@permissionCodeOne{2158-656X}%
681 \or % TOCE
682 \def\@journalName{ACM Transactions on Computing Education}%
683 \def\@journalNameShort{ACM Trans. Comput. Educ.}%
684 \def\@permissionCodeOne{1946-6226}%
685 \or % TOCHI
686 \def\@journalName{ACM Transactions on Computer-Human Interaction}%
687 \def\@journalNameShort{ACM Trans. Comput.-Hum. Interact.}%
688 \def\@permissionCodeOne{1073-0516}%
689 \or % TOCL
690 \def\@journalName{ACM Transactions on Computational Logic}%
691 \def\@journalNameShort{ACM Trans. Comput. Logic}%
692 \def\@permissionCodeOne{1529-3785}%
693 \or % TOCS
694 \def\@journalName{ACM Transactions on Computer Systems}%
695 \def\@journalNameShort{ACM Trans. Comput. Syst.}%
696 \def\@permissionCodeOne{0734-2071}%
697 \or % TOCT
698 \def\@journalName{ACM Transactions on Computation Theory}%
699 \def\@journalNameShort{ACM Trans. Comput. Theory}%
700 \def\@permissionCodeOne{1942-3454}%
701 \or % TODAES
702 \def\@journalName{ACM Transactions on Design Automation of Electronic Systems}%
703 \def\@journalNameShort{ACM Trans. Des. Autom. Electron. Syst.}%
704 \def\@permissionCodeOne{1084-4309}%
705 \or % TODS
706 \def\@journalName{ACM Transactions on Database Systems}%
707 \def\@journalNameShort{ACM Trans. Datab. Syst.}%
708 \def\@permissionCodeOne{0362-5915}%
709 \or % TOG
710 \def\@journalName{ACM Transactions on Graphics}%
711 \def\@journalNameShort{ACM Trans. Graph.}%
712 \def\@permissionCodeOne{0730-0301}%
713 \or % TOIS
714 \def\@journalName{ACM Transactions on Information Systems}%
715 \def\@journalName{ACM Transactions on Information Systems}%
716 \def\@permissionCodeOne{1046-8188}%
717 \or % TOIT
718 \def\@journalName{ACM Transactions on Internet Technology}%
719 \def\@journalNameShort{ACM Trans. Internet Technol.}%
720 \def\@permissionCodeOne{1533-5399}%
721 \or % TOMACS
722 \def\@journalName{ACM Transactions on Modeling and Computer Simulation}%
723 \def\@journalName{ACM Transactions on Modeling and Computer Simulation}%
724 \def\@journalNameShort{ACM Trans. Model. Comput. Simul.}%
725 \or % TOMM

```

```

726 \def\@journalName{ACM Transactions on Multimedia Computing, Communications and Applications}%
727 \def\@journalNameShort{ACM Trans. Multimedia Comput. Commun. Appl.}%
728 \def\@permissionCodeOne{1551-6857}%
729 \def\@permissionCodeTwo{0100}%
730 \or % TOMPECS
731 \def\@journalName{ACM Transactions on Modeling and Performance Evaluation of Computing Systems}%
732 \def\@journalNameShort{ACM Trans. Model. Perform. Eval. Comput. Syst.}%
733 \def\@permissionCodeOne{2376-3639}%
734 \or % TOMS
735 \def\@journalName{ACM Transactions on Mathematical Software}%
736 \def\@journalNameShort{ACM Trans. Math. Softw.}%
737 \def\@permissionCodeOne{0098-3500}%
738 \or % TOPC
739 \def\@journalName{ACM Transactions on Parallel Computing}%
740 \def\@journalNameShort{ACM Trans. Parallel Comput.}%
741 \def\@permissionCodeOne{1539-9087}%
742 \or % TOPS
743 \def\@journalName{ACM Transactions on Privacy and Security}%
744 \def\@journalNameShort{ACM Trans. Priv. Sec.}%
745 \def\@permissionCodeOne{2471-2566}%
746 \or % TOPLAS
747 \def\@journalName{ACM Transactions on Programming Languages and Systems}%
748 \def\@journalNameShort{ACM Trans. Program. Lang. Syst.}%
749 \def\@permissionCodeOne{0164-0925}%
750 \or % TOS
751 \def\@journalName{ACM Transactions on Storage}%
752 \def\@journalNameShort{ACM Trans. Storage}%
753 \def\@permissionCodeOne{1553-3077}%
754 \or % TOSEM
755 \def\@journalName{ACM Transactions on Software Engineering and Methodology}%
756 \def\@journalNameShort{ACM Trans. Softw. Eng. Methodol.}%
757 \def\@permissionCodeOne{1049-331X}%
758 \or % TOSN
759 \def\@journalName{ACM Transactions on Sensor Networks}%
760 \def\@journalNameShort{ACM Trans. Sensor Netw.}%
761 \def\@permissionCodeOne{1550-4859}%
762 \or % TRET
763 \def\@journalName{ACM Transactions on Reconfigurable Technology and Systems}%
764 \def\@journalNameShort{ACM Trans. Reconfig. Technol. Syst.}%
765 \def\@permissionCodeOne{1936-7406}%
766 \or % TSAS
767 \def\@journalName{ACM Transactions on Spatial Algorithms and Systems}%
768 \def\@journalNameShort{ACM Trans. Spatial Algorithms Syst.}%
769 \def\@permissionCodeOne{2374-0353}%
770 \or % TSC
771 \def\@journalName{ACM Transactions on Social Computing}%
772 \def\@journalNameShort{ACM Trans. Soc. Comput.}%
773 \def\@permissionCodeOne{2469-7818}%
774 \or % TSLP
775 \def\@journalName{ACM Transactions on Speech and Language Processing}%

```

```

776 \def\@journalNameShort{ACM Trans. Speech Lang. Process.}%
777 \def\@permissionCodeOne{1550-4875}%
778 \or % TWEB
779 \def\@journalName{ACM Transactions on the Web}%
780 \def\@journalNameShort{ACM Trans. Web}%
781 \def\@permissionCodeOne{1559-1131}%
782 \fi
783 \ClassInfo{\@classname}{Using journal code \@journalCode}%
784 }{%
785 \ClassError{\@classname}{Incorrect journal #1}%
786 }%

\acmJournal And the syntactic sugar around it
787 \def\acmJournal#1{\setkeys{ACM}{acmJournal=#1}}

The defaults:
788 \def\@journalName{}%
789 \def\@journalNameShort{\@journalName}%
790 \def\@permissionCodeOne{XXXX-XX}%
791 \def\@permissionCodeTwo{}%

\acmConference This is the conference command
792 \newcommand\acmConference[4][{}]{%
793 \gdef\acmConference@shortname{#1}%
794 \gdef\acmConference@name{#2}%
795 \gdef\acmConference@date{#3}%
796 \gdef\acmConference@venue{#4}%
797 \ifx\acmConference@shortname\empty
798 \gdef\acmConference@shortname{#2}%
799 \fi}
800 \acmConference[Conference'17]{ACM Conference}{July 2017}{Washington,
801 DC, USA}

\subtitle The subtitle macro
802 \def\subtitle#1{\def\@subtitle{#1}}
803 \subtitle{}

\num@authors The total number of authors
804 \newcount\num@authors
805 \num@authors=0\relax

\author Adding an author to the list of authors and addresses
806 \renewcommand\author[2][{}]{%
807 \global\advance\num@authors by 1\relax
808 \ifx\addresses\empty
809 \if@ACM@anonymous
810 \gdef\addresses{\@author{Anonymous Author(s)}}%
811 \gdef\authors{Anonymous Author(s)}%
812 \else

```

```

813     \gdef\addresses{\@author{#2}}%
814     \gdef\authors{#2}%
815     \fi
816 \else
817     \if@ACM@anonymous\else
818         \g@addto@macro\addresses{\and\@author{#2}}%
819         \g@addto@macro\authors{\and#2}%
820     \fi
821 \fi
822 \if@ACM@anonymous
823     \ifx\shortauthors\@empty
824         \gdef\shortauthors{Anon.}%
825     \fi
826 \else
827     \def\@tempa{#1}%
828     \ifx\@tempa\@empty
829         \ifx\shortauthors\@empty
830             \gdef\shortauthors{#2}%
831         \else
832             \g@addto@macro\shortauthors{\and#2}%
833         \fi
834     \else
835         \ifx\shortauthors\@empty
836             \gdef\shortauthors{#1}%
837         \else
838             \g@addto@macro\shortauthors{\and#1}%
839         \fi
840     \fi
841 \fi}

```

`\affiliation` The macro `\affiliation` mimics `\address` from `amsart`. Note that it has an optional argument we do not currently need, but keep for the possible future use.

```

842 \newcommand{\affiliation}[2][{}]{%
843     \if@ACM@anonymous\else
844         \g@addto@macro\addresses{\affiliation{#1}{#2}}%
845     \fi}

```

`\email` The macro `\email` mimics `\email` from `amsart`. Again it has an optional argument we do not currently need, but keep for the possible future use.

```

846 \renewcommand{\email}[2][{}]{%
847     \if@ACM@anonymous\else
848         \g@addto@macro\addresses{\email{#1}{#2}}%
849     \fi}

```

`\@titlenotes` The `titlenotes`

```

850 \def\@titlenotes{}

```

`\titlenote` Adding note to the title

```

851 \def\titlenote#1{%

```

```

852 \g@addto@macro\@title{\footnotemark}%
853 \if@ACM@anonymous
854 \g@addto@macro\@titlenotes{%
855 \stepcounter{footnote}\footnotetext{Title note}}%
856 \else
857 \g@addto@macro\@titlenotes{\stepcounter{footnote}\footnotetext{#1}}%
858 \fi}

\@subtitlenotes The subtitlenotes
859 \def\@subtitlenotes{}

\subtitlenote Adding note to the subtitle
860 \def\subtitlenote#1{%
861 \g@addto@macro\@subtitle{\footnotemark}%
862 \if@ACM@anonymous
863 \g@addto@macro\@subtitlenotes{%
864 \stepcounter{footnote}\footnotetext{Subtitle note}}%
865 \else
866 \g@addto@macro\@subtitlenotes{%
867 \stepcounter{footnote}\footnotetext{#1}}%
868 \fi}

\@authornotes The authornotes
869 \def\@authornotes{}

\authornote Adding note to the author
870 \def\authornote#1{%
871 \if@ACM@anonymous\else
872 \g@addto@macro\addresses{\@authornotemark}
873 \g@addto@macro\@authornotes{%
874 \stepcounter{footnote}\footnotetext{#1}}%
875 \fi}

\acmVolume The current volume
876 \def\acmVolume#1{\def\@acmVolume{#1}}
877 \acmVolume{VV}

\acmNumber The current number
878 \def\acmNumber#1{\def\@acmNumber{#1}}
879 \acmNumber{NNN}

\acmArticle The current article
880 \def\acmArticle#1{\def\@acmArticle{#1}}
881 \acmArticle{AA}

\acmArticleSeq The sequence number
882 \def\acmArticleSeq#1{\def\@acmArticleSeq{#1}}
883 \acmArticleSeq{\@acmArticle}

```

<code>\acmYear</code>	<p>The current year</p> <pre>884 \def\acmYear#1{\def\@acmYear{#1}} 885 \acmYear{YYYY}</pre>
<code>\acmMonth</code>	<p>The current month</p> <pre>886 \def\acmMonth#1{\def\@acmMonth{#1}} 887 \acmMonth{MM}</pre>
<code>\@acmPubDate</code>	<p>The publication date</p> <pre>888 \def\@acmPubDate{\ifcase\@acmMonth\or 889 January\or February\or March\or April\or May\or June\or 890 July\or August\or September\or October\or November\or 891 December\fi~\@acmYear}</pre>
<code>\acmPrice</code>	<p>The price</p> <pre>892 \def\acmPrice#1{\def\@acmPrice{#1}} 893 \acmPrice{15.00}</pre>
<code>\acmISBN</code>	<p>The book isbn</p> <pre>894 \def\acmISBN#1{\def\@acmISBN{#1}} 895 \acmISBN{978-x-xxxx-xxxx-x/YY/MM}</pre>
<code>\acmDOI</code>	<p>The paper doi</p> <pre>896 \def\acmDOI#1{\def\@acmDOI{#1}} 897 \acmDOI{10.1145/nnnnnnn.nnnnnnn}</pre>
<code>\if@ACM@badge</code>	<p>Whether to print badge. Note that either left or right badge triggers it:</p> <pre>898 \newif\if@ACM@badge 899 \@ACM@badgefalse</pre>
<code>\@ACM@badge@width</code>	<p>The width of the badge</p> <pre>900 \newlength\@ACM@badge@width 901 \setlength\@ACM@badge@width{5pc}</pre>
<code>\@ACM@title@width</code>	<p>The width of the badge</p> <pre>902 \newlength\@ACM@title@width</pre>
<code>\@ACM@badge@skip</code>	<p>The space between the badge and the title</p> <pre>903 \newlength\@ACM@badge@skip 904 \setlength\@ACM@badge@skip{1pc}</pre>
<code>\acmBadgeR</code>	<p>Setting the right badge</p> <pre>905 \newcommand\acmBadgeR[2][\@ACM@badgetrue 906 \def\@acmBadgeR@url{#1}% 907 \def\@acmBadgeR@image{#2}} 908 \def\@acmBadgeR@url{} 909 \def\@acmBadgeR@image{}</pre>

`\acmBadgeL` Setting the left badge

```

910 \newcommand\acmBadgeL[2][\@ACM@badgetrue
911   \def\@acmBadgeL@url{#1}%
912   \def\@acmBadgeL@image{#2}}
913 \def\@acmBadgeL@url{}
914 \def\@acmBadgeL@image{}

```

`\startPage` The start page of the paper

```

915 \def\startPage#1{\def\@startPage{#1}}
916 \startPage{}

```

`\terms` Terms are mostly obsolete, we use CCS now. Still it makes sense to keep them for compatibility.

```

917 \def\terms#1{\def\@terms{#1}}
918 \terms{}

```

`\keywords` Keywords are mostly obsolete, we use CCS now. Still it makes sense to keep them for compatibility.

```

919 \def\keywords#1{\def\@keywords{#1}}
920 \keywords{}

```

`abstract` Amsart puts abstract in the box. Since we do not know whether we will use two column mode, we prefer to save the text

```

921 \renewenvironment{abstract}{\Collect@Body\@saveabstract}{}

```

`\@saveabstract` And saving the abstract

```

922 \long\def\@saveabstract#1{\long\gdef\@abstract{#1}}
923 \@saveabstract{}

```

`\@empty` The long version of `\@empty` (to compare with `\@abstract`)

```

924 \long\def\@empty{}

```

`\if@ACM@printcss` Whether to print CCS

```

925 \define@boolkey+{@ACM@topmatter@}[@ACM@]{printcss}[true]{%
926   \if@ACM@printcss
927     \ClassInfo{\@classname}{Printing CSS}%
928   \else
929     \ClassInfo{\@classname}{Suppressing CSS}%
930   \fi}{\ClassError{\@classname}{printcss must be true or false}}

```

`\if@ACM@printbib` Whether to print ACM bib

```

931 \define@boolkey+{@ACM@topmatter@}[@ACM@]{printbib}[true]{%
932   \if@ACM@printcss
933     \ClassInfo{\@classname}{Printing bibformat}%
934   \else
935     \ClassInfo{\@classname}{Suppressing bibformat}%
936   \fi}{\ClassError{\@classname}{printbib must be true or false}}

```

`\settopmatter` The usual syntactic sugar

```

937 \def\settopmatter#1{\setkeys{@ACM@topmatter@}{#1}}

    Now the settings
938 \settopmatter{printcss=true}
939 \if@ACM@manuscript
940   \settopmatter{printbib=false}
941 \else
942   \if@ACM@journal
943     \settopmatter{printbib=true}
944   \else
945     \settopmatter{printbib=false}
946   \fi
947 \fi

```

`\@received` The container for the paper history

```

948 \def\@received{}

```

`\received` The `\received` command

```

949 \newcommand\received[2][\def\@tempa{#1}%
950   \ifx\@tempa\@empty
951     \ifx\@received\@empty
952       \gdef\@received{Received #2}%
953     \else
954       \g@addto@macro{\@received}{; revised #2}%
955     \fi
956   \else
957     \ifx\@received\@empty
958       \gdef\@received{#1 #2}%
959     \else
960       \g@addto@macro{\@received}{; #1 #2}%
961     \fi
962   \fi}
963 \AtEndDocument{%
964   \ifx\@received\@empty\else
965     \par\bigskip\noindent\small\normalfont\@received\par
966   \fi}

```

3.9 Concepts system

We exclude CCSXML stuff generated by the ACM system:

```

967 \RequirePackage{comment}
968 \excludecomment{CCSXML}

```

`\@concepts` This is the storage macro for concepts

```

969 \let\@concepts\@empty

```

`\ccsdesc` The first argument is the significance, the second is the concept(s)

```
970 \newcommand\ccsdesc[2][100]{%
971   \ccsdesc@parse#1~#2~}
```

`\ccsdesc@parse` The parser of the expression Significance~General~Specific:

```
972 \def\ccsdesc@parse#1~#2~#3~{%
973   \expandafter\ifx\csname CCS@#2\endcsname\relax
974   \expandafter\gdef\csname CCS@#2\endcsname{\textbullet\textbf{#2} $\to$ }%
975   \g@addto@macro{\@concepts}{\csname CCS@#2\endcsname}\fi
976   \expandafter\g@addto@macro\expandafter{\csname CCS@#2\endcsname}{%
977     \ifnum#1>499\textbf{#3; } \else
978     \ifnum#1>299\textit{#3; } \else
979     #3; \fi\fi}}
```

3.10 Copyright system

This is from `acmcopyright.sty`

`\if@printcopyright` A flag whether to print copyright symbol

```
980 \newif\if@printcopyright
981 \@printcopyrighttrue
```

`\if@printpermission` Whether to print permission block

```
982 \newif\if@printpermission
983 \@printpermissiontrue
```

`\if@acmowned` Whether ACM owns the rights to the paper

```
984 \newif\if@acmowned
985 \@acmownedtrue
```

Keys:

```
986 \define@choicekey*{ACM@}{acmcopyrightmode}[%
987   \acm@copyrightinput\acm@copyrightmode]{none,acmcopyright,acmlicensed,%
988   rightsretained,usgov,usgovmixed,cagov,cagovmixed,%
989   licensedusgovmixed,licensedcagovmixed,othergov,licensedothergov}{%
990   \@printpermissiontrue
991   \@printcopyrighttrue
992   \@acmownedtrue
993   \ifnum\acm@copyrightmode=0\relax % none
994     \@printpermissionfalse
995     \@printcopyrightfalse
996     \@acmownedfalse
997   \fi
998   \ifnum\acm@copyrightmode=2\relax % acmlicensed
999     \@acmownedfalse
1000   \fi
1001   \ifnum\acm@copyrightmode=3\relax % rightsretained
1002     \@acmownedfalse
1003   \fi
```

```

1004 \ifnum\acm@copyrightmode=4\relax % usgov
1005 \@printpermissiontrue
1006 \@printcopyrightfalse
1007 \@acmownedfalse
1008 \fi
1009 \ifnum\acm@copyrightmode=6\relax % cagov
1010 \@acmownedfalse
1011 \fi
1012 \ifnum\acm@copyrightmode=8\relax % licensedusgovmixed
1013 \@acmownedfalse
1014 \fi
1015 \ifnum\acm@copyrightmode=9\relax % licensedcagovmixed
1016 \@acmownedfalse
1017 \fi
1018 \ifnum\acm@copyrightmode=10\relax % othergov
1019 \@acmownedtrue
1020 \fi
1021 \ifnum\acm@copyrightmode=11\relax % licensedothergov
1022 \@acmownedfalse
1023 \@printcopyrightfalse
1024 \fi}

```

\setcopyright This is the syntactic sugar around setting keys.

```

1025 \def\setcopyright#1{\setkeys{ACM@}{acmcopyrightmode=#1}}
1026 \setcopyright{acmcopyright}

```

\@copyrightowner Here is the owner of the copyright

```

1027 \def\@copyrightowner{%
1028 \ifcase\acm@copyrightmode\relax % none
1029 \or % acmcopyright
1030 ACM\@.
1031 \or % acmlicensed
1032 Copyright held by the owner/author(s). Publication rights licensed to
1033 ACM\@.
1034 \or % rightsretained
1035 Copyright held by the owner/author(s).
1036 \or % usgov
1037 \or % usgovmixed
1038 ACM\@.
1039 \or % cagov
1040 Crown in Right of Canada.
1041 \or %cagovmixed
1042 ACM\@.
1043 \or %licensedusgovmixed
1044 Copyright held by the owner/author(s). Publication rights licensed to
1045 ACM\@.
1046 \or %licensedcagovmixed
1047 Copyright held by the owner/author(s). Publication rights licensed to
1048 ACM\@.
1049 \or % othergov

```

```

1050 ACM\@.
1051 \or % licensedothergov
1052 \fi}

```

\@formatdoi Print a clickable doi

```

1053 \def\@formatdoi#1{\url{http://dx.doi.org/#1}}

```

\@copyrightpermission The canned permission block.

```

1054 \def\@copyrightpermission{%
1055   \ifcase\acm@copyrightmode\relax % none
1056   \or % acmcopyright
1057     Permission to make digital or hard copies of all or part of this
1058     work for personal or classroom use is granted without fee provided
1059     that copies are not made or distributed for profit or commercial
1060     advantage and that copies bear this notice and the full citation on
1061     the first page. Copyrights for components of this work owned by
1062     others than ACM must be honored. Abstracting with credit is
1063     permitted. To copy otherwise, or republish, to post on servers or to
1064     redistribute to lists, requires prior specific permission
1065     and\hspace*{.5pt}/or a fee. Request permissions from
1066     permissions@acm.org.
1067   \or % acmlicensed
1068     Permission to make digital or hard copies of all or part of this
1069     work for personal or classroom use is granted without fee provided
1070     that copies are not made or distributed for profit or commercial
1071     advantage and that copies bear this notice and the full citation on
1072     the first page. Copyrights for components of this work owned by
1073     others than the author(s) must be honored. Abstracting with credit
1074     is permitted. To copy otherwise, or republish, to post on servers
1075     or to redistribute to lists, requires prior specific permission
1076     and\hspace*{.5pt}/or a fee. Request permissions from
1077     permissions@acm.org.
1078   \or % rightsretained
1079     Permission to make digital or hard copies of part or all of this work
1080     for personal or classroom use is granted without fee provided that
1081     copies are not made or distributed for profit or commercial advantage
1082     and that copies bear this notice and the full citation on the first
1083     page. Copyrights for third-party components of this work must be
1084     honored. For all other uses, contact the
1085     owner\hspace*{.5pt}/author(s).
1086   \or % usgov
1087     This paper is authored by an employee(s) of the United States
1088     Government and is in the public domain. Non-exclusive copying or
1089     redistribution is allowed, provided that the article citation is
1090     given and the authors and agency are clearly identified as its
1091     source.
1092   \or % usgovmixed
1093     ACM acknowledges that this contribution was authored or co-authored
1094     by an employee, or contractor of the national government. As such,
1095     the Government retains a nonexclusive, royalty-free right to

```

1096 publish or reproduce this article, or to allow others to do so, for
 1097 Government purposes only. Permission to make digital or hard copies
 1098 for personal or classroom use is granted. Copies must bear this
 1099 notice and the full citation on the first page. Copyrights for
 1100 components of this work owned by others than ACM must be
 1101 honored. To copy otherwise, distribute, republish, or post,
 1102 requires prior specific permission and\hspace*{.5pt}/or a
 1103 fee. Request permissions from permissions@acm.org.
 1104 \or % cagov
 1105 This article was authored by employees of the Government of Canada.
 1106 As such, the Canadian government retains all interest in the
 1107 copyright to this work and grants to ACM a nonexclusive,
 1108 royalty-free right to publish or reproduce this article, or to allow
 1109 others to do so, provided that clear attribution is given both to
 1110 the authors and the Canadian government agency employing them.
 1111 Permission to make digital or hard copies for personal or classroom
 1112 use is granted. Copies must bear this notice and the full citation
 1113 on the first page. Copyrights for components of this work owned by
 1114 others than the Canadian Government must be honored. To copy
 1115 otherwise, distribute, republish, or post, requires prior specific
 1116 permission and\hspace*{.5pt}/or a fee. Request permissions from
 1117 permissions@acm.org.
 1118 \or % cagovmixed
 1119 ACM acknowledges that this contribution was co-authored by an
 1120 affiliate of the national government of Canada. As such, the Crown
 1121 in Right of Canada retains an equal interest in the copyright.
 1122 Reprints must include clear attribution to ACM and the author's
 1123 government agency affiliation. Permission to make digital or hard
 1124 copies for personal or classroom use is granted. Copies must bear
 1125 this notice and the full citation on the first page. Copyrights for
 1126 components of this work owned by others than ACM must be honored.
 1127 To copy otherwise, distribute, republish, or post, requires prior
 1128 specific permission and\hspace*{.5pt}/or a fee. Request permissions
 1129 from permissions@acm.org.
 1130 \or % licensedusgovmixed
 1131 Publication rights licensed to ACM\@. ACM acknowledges that this
 1132 contribution was authored or co-authored by an employee, contractor
 1133 or affiliate of the United States government. As such, the
 1134 Government retains a nonexclusive, royalty-free right to publish or
 1135 reproduce this article, or to allow others to do so, for Government
 1136 purposes only.
 1137 \or % licensedcagovmixed
 1138 Publication rights licensed to ACM\@. ACM acknowledges that this
 1139 contribution was authored or co-authored by an employee, contractor
 1140 or affiliate of the national government of Canada. As such, the
 1141 Government retains a nonexclusive, royalty-free right to publish or
 1142 reproduce this article, or to allow others to do so, for Government
 1143 purposes only.
 1144 \or % othergov
 1145 ACM acknowledges that this contribution was authored or co-authored

```

1146 by an employee, contractor or affiliate of a national government. As
1147 such, the Government retains a nonexclusive, royalty-free right to
1148 publish or reproduce this article, or to allow others to do so, for
1149 Government purposes only.
1150 \or % licensedothergov
1151 Publication rights licensed to ACM\@. ACM acknowledges that this
1152 contribution was authored or co-authored by an employee, contractor
1153 or affiliate of a national government. As such, the Government
1154 retains a nonexclusive, royalty-free right to publish or reproduce
1155 this article, or to allow others to do so, for Government purposes
1156 only.
1157 \fi}

\copyrightyear By default, the copyright year is the same as \acmYear, but one can override this:
1158 \def\copyrightyear#1{\def\@copyrightyear{#1}}
1159 \copyrightyear{\@acmYear}

\@teaserfigures The teaser figures container
1160 \def\@teaserfigures{}

teaserfigure The teaser figure
1161 \newenvironment{teaserfigure}{\Collect@Body\@saveteaser}{}

\@saveteaser Saving the teaser
1162 \long\def\@saveteaser#1{\g@addto@macro\@teaserfigures{\@teaser{#1}}}

\thanks We redefine amsart \thanks, so the anonymous key works
1163 \renewcommand{\thanks}[1]{%
1164   \@ifnotempty{#1}{%
1165     \if@ACM@anonymous
1166       \g@addto@macro\thankses{\thanks{A note}}%
1167     \else
1168       \g@addto@macro\thankses{\thanks{#1}}%
1169     \fi}}

```

3.11 Typesetting top matter

```

\mktitle@bx Some of our formats use two column design, some use one column one. In all cases
we use wide title. Thus we typeset the top matter in a special box to be use in the
construction \@twocolumn[{box}].
1170 \newbox\mktitle@bx

\maketitle The (in)famous \maketitle. Note that in sigchi-a mode authors are not in the title box.
1171 \def\maketitle{%
1172   \if@ACM@anonymous
1173     % Anonymize omission of \author-s
1174     \ifnum\@num@authors=0\author{}\fi
1175   \fi

```

```

1176 \begingroup
1177 \let\@footnotemark\@footnotemark@nolink
1178 \let\@footnotetext\@footnotetext@nolink
1179 \renewcommand\thefootnote{\@fnsymbol\c@footnote}%
1180 \@topnum\z@ % this prevents figures from falling at the top of page
1181             % 1
1182 \hsize=\textwidth
1183 \def\@makefnmark{\hbox{\@textsuperscript{\@thefnmark}}}
1184 \mktitle\if@ACM@sigchiamode\else\mkauthors\fi\mkteasers
1185 \printtopmatter
1186 \if@ACM@sigchiamode\mkauthors\fi
1187 \setcounter{footnote}{0}%
1188 \def\@makefnmark{\hbox{\@textsuperscript{\normalfont\@thefnmark}}}
1189 \@titlenotes
1190 \@subtitlenotes
1191 \@authornotes
1192 \let\@makefnmark\relax \let\@thefnmark\relax
1193 \let\@makefntext\noindent
1194 \ifx\@empty\thankses\else
1195   \@footnotetext{\def\par{\let\par\@par}\parindent\z@\@setthanks}%
1196 \fi
1197 \footnotetextcopyrightpermission{\parindent\z@\parskip0.1\baselineskip
1198 \if@ACM@authorversion\else
1199   \if@printpermission\copyrightpermission\par\fi
1200 \fi
1201 \if@ACM@manuscript\else
1202   \if@ACM@journal\else % Print the conference short name
1203     {\itshape \acmConference@shortname, \acmConference@venue}\par
1204   \fi
1205 \fi
1206 \if@printcopyright
1207   \copyright\ @copyrightyear\ @copyrightowner\
1208 \else
1209   \@copyrightyear.\
1210 \fi
1211 \if@ACM@manuscript
1212   Manuscript submitted to ACM\
1213 \else
1214   \if@ACM@authorversion
1215     This is the author's version of the work. It is posted here for
1216     your personal use. Not for redistribution. The definitive Version
1217     of Record was published in
1218     \if@ACM@journal
1219       \emph{\@journalName}%
1220     \else
1221       \emph{Proceedings of \acmConference@name, \acmConference@date}%
1222     \fi
1223     \ifx\@acmDOI\@empty
1224       .
1225     \else

```

```

1226         , \@formatdoi{\@acmDOI}.
1227     \fi\
1228 \else
1229     \if@ACM@journal
1230         \@permissionCodeOne/\@acmYear/\@acmMonth-ART\@acmArticle\
1231         \$\@acmPrice\
1232     \else % Conference
1233         \@acmISBN
1234         \ifx\@acmPrice\@empty.\else\dots\$\@acmPrice\fi\
1235     \fi
1236 \fi
1237 \fi
1238 DOI: \nolinkurl{\@acmDOI}}%
1239 \endgroup
1240 \setcounter{footnote}{0}%
1241 \@mkabstract
1242 \if@ACM@printcss
1243     \ifx\@concepts\@empty\else\bgroup
1244         {\@specialsection{CCS Concepts}}%
1245         \@concepts\par\egroup
1246     \fi
1247 \fi
1248 \if\@terms\@empty\else\bgroup
1249     {\@specialsection{General Terms}}%
1250     \@terms\par\egroup
1251 \fi
1252 \ifx\@keywords\@empty\else\bgroup
1253     {\if@ACM@journal
1254         \@specialsection{Additional Key Words and Phrases}}%
1255     \else
1256         \@specialsection{Keywords}}%
1257     \fi
1258     \@keywords\par\egroup
1259 \fi
1260 \andify\authors
1261 \andify\shortauthors
1262 \global\let\authors=\authors
1263 \global\let\shortauthors=\shortauthors
1264 \if@ACM@printbib
1265     \@mkbibcitation
1266 \fi
1267 \hypersetup{pdfauthor={\authors},
1268     pdftitle={\@title}, pdfkeywords={\@concepts}}%
1269 \@printendtopmatter
1270 \@afterindentfalse
1271 \@afterheading
1272 }

```

\@specialsection This macro starts section for proceedings and uses small for journals

```

1273 \def\@specialsection#1{%

```

```

1274 \if@ACM@journal
1275   \par\medskip\small\noindent#1: %
1276 \else
1277   \section*{#1}%
1278 \fi}

```

\@printtopmatter The printing of top matter starts the new page, and uses the given title box. Note that for sigchi-a we print badges here rather than in \mkttitle since we want them on the margins.

```

1279 \def\@printtopmatter{%
1280   \ifx\@startPage\@empty
1281     \gdef\@startPage{1}%
1282   \else
1283     \setcounter{page}{\@startPage}%
1284   \fi
1285   \thispagestyle{firstpagestyle}%
1286   \noindent
1287   \ifcase\ACM@format@nr
1288   \relax % manuscript
1289     \box\mkttitle@bx\par
1290     \noindent\hrulefill\par
1291   \or% acmsmall
1292     \box\mkttitle@bx\par
1293     \noindent\hrulefill\par
1294   \or % acmlarge
1295     \box\mkttitle@bx\par
1296     \noindent\hrulefill\par
1297   \or % acmtog
1298     \twocolumn[\box\mkttitle@bx]%
1299   \or % sigconf
1300     \twocolumn[\box\mkttitle@bx]%
1301   \or % siggraph
1302     \twocolumn[\box\mkttitle@bx]%
1303   \or % sigplan
1304     \twocolumn[\box\mkttitle@bx]%
1305   \or % sigchi
1306     \twocolumn[\box\mkttitle@bx]%
1307   \or % sigchi-a
1308     \par\box\mkttitle@bx\par\bigskip
1309     \if@ACM@badge
1310       \marginpar{\noindent
1311         \ifx\@acmBadgeL@image\@empty\else
1312           \href{\@acmBadgeL@url}{%
1313             \includegraphics[width=\@ACM@badge@width]{\@acmBadgeL@image}}%
1314           \hskip\@ACM@badge@skip
1315         \fi
1316         \ifx\@acmBadgeR@image\@empty\else
1317           \href{\@acmBadgeR@url}{%
1318             \includegraphics[width=\@ACM@badge@width]{\@acmBadgeR@image}}%
1319         \fi}%

```

```

1320     \fi
1321     \fi
1322 }

\@mktitle The title of the article
1323 \def\@mktitle{%
1324   \ifcase\ACM@format@nr
1325     \relax % manuscript
1326     \@mktitle@i
1327   \or% acmsmall
1328     \@mktitle@i
1329   \or % acmlarge
1330     \@mktitle@i
1331   \or % acmtog
1332     \@mktitle@i
1333   \or % sigconf
1334     \@mktitle@iii
1335   \or % siggraph
1336     \@mktitle@iii
1337   \or % sigplan
1338     \@mktitle@iii
1339   \or % sigchi
1340     \@mktitle@iii
1341   \or % sigchi-a
1342     \@mktitle@iv
1343   \fi
1344 }

\@titlefont The font to typeset title
1345 \def\@titlefont{%
1346   \ifcase\ACM@format@nr
1347     \relax % manuscript
1348     \LARGE\bfseries\sffamily
1349   \or% acmsmall
1350     \LARGE\bfseries\sffamily
1351   \or % acmlarge
1352     \LARGE\bfseries\sffamily
1353   \or % acmtog
1354     \Huge\sffamily
1355   \or % sigconf
1356     \Huge\sffamily\bfseries
1357   \or % siggraph
1358     \Huge\sffamily\bfseries
1359   \or % sigplan
1360     \Huge\sffamily\bfseries
1361   \or % sigchi
1362     \Huge\sffamily\bfseries
1363   \or % sigchi-a
1364     \Huge\bfseries
1365   \fi}

```

```

\@subtitlefont The font to typeset title
1366 \def\@subtitlefont{%
1367   \ifcase\ACM@format@nr
1368   \relax % manuscript
1369   \mdseries
1370   \or% acmsmall
1371   \mdseries
1372   \or % acmlarge
1373   \mdseries
1374   \or % acmtog
1375   \LARGE
1376   \or % sigconf
1377   \LARGE\mdseries
1378   \or % siggraph
1379   \LARGE\mdseries
1380   \or % sigplan
1381   \LARGE\mdseries
1382   \or % sigchi
1383   \LARGE\mdseries
1384   \or % sigchi-a
1385   \mdseries
1386   \fi}

\@mktitle@i The version of \mktitle for most journals
1387 \def\@mktitle@i{\hsize=\textwidth
1388   \@ACM@title@width=\hsize
1389   \ifx\@acmBadgeL@image\@empty\else
1390     \advance\@ACM@title@width by -\@ACM@badge@width
1391     \advance\@ACM@title@width by -\@ACM@badge@skip
1392   \fi
1393   \ifx\@acmBadgeR@image\@empty\else
1394     \advance\@ACM@title@width by -\@ACM@badge@width
1395     \advance\@ACM@title@width by -\@ACM@badge@skip
1396   \fi
1397   \setbox\mktitle@bx=\vbox{\noindent\@titlefont
1398     \ifx\@acmBadgeL@image\@empty\else
1399       \raisebox{-.5\baselineskip}[\z@][\z@]{\href{\@acmBadgeL@url}{%
1400         \includegraphics[width=\@ACM@badge@width]{\@acmBadgeL@image}}}%
1401       \hskip\@ACM@badge@skip
1402     \fi
1403     \parbox[t]{\@ACM@title@width}{\raggedright
1404       \@titlefont\noindent
1405       \@title
1406     \ifx\@subtitle\@empty\else
1407       \par\noindent{\@subtitlefont\@subtitle}
1408     \fi}%
1409     \ifx\@acmBadgeR@image\@empty\else
1410       \hskip\@ACM@badge@skip
1411       \raisebox{-.5\baselineskip}[\z@][\z@]{\href{\@acmBadgeR@url}{%
1412         \includegraphics[width=\@ACM@badge@width]{\@acmBadgeR@image}}}%

```

```

1413 \fi
1414 \par\bigskip}}%

\mktitle@ii The version of \mktitle for TOG. Since v1.06 is subsumed by the \mktitle@i macro

\mktitle@iii The version of \mktitle for sigproc. Note that since the title is centered, we leave the
space for the left badge even if only the right badge is defined.
1415 \def\mktitle@iii{\hsize=\textwidth
1416 \setbox\mktitle@bx=\vbox{\@titlefont\centering
1417 \ACM@title@width=\hsize
1418 \ifACM@badge
1419 \advance\ACM@title@width by -2\ACM@badge@width
1420 \advance\ACM@title@width by -2\ACM@badge@skip
1421 \parbox[b]{\ACM@badge@width}{\strut
1422 \ifx\acmBadgeL@image\empty\else
1423 \raisebox{-.5\baselineskip}[\z@][\z@]{\href{\acmBadgeL@url}{%
1424 \includegraphics[width=\ACM@badge@width]{\acmBadgeL@image}}}%
1425 \fi}%
1426 \hskip\ACM@badge@skip
1427 \fi
1428 \parbox[t]{\ACM@title@width}{\centering\@titlefont
1429 \@title
1430 \ifx\@subtitle\empty\else
1431 \par\noindent{\@subtitlefont\@subtitle}
1432 \fi
1433 }%
1434 \ifACM@badge
1435 \hskip\ACM@badge@skip
1436 \parbox[b]{\ACM@badge@width}{\strut
1437 \ifx\acmBadgeR@image\empty\else
1438 \raisebox{-.5\baselineskip}[\z@][\z@]{\href{\acmBadgeR@url}{%
1439 \includegraphics[width=\ACM@badge@width]{\acmBadgeR@image}}}%
1440 \fi}%
1441 \fi
1442 \par\bigskip}}%

\mktitle@iv The version of \mktitle for sigchi-a
1443 \def\mktitle@iv{\hsize=\textwidth
1444 \setbox\mktitle@bx=\vbox{\raggedright\leftskip5pc\@titlefont
1445 \noindent\leavevmode\leaders\hrule height 2pt\hfill\kern0pt\par
1446 \noindent\@title
1447 \ifx\@subtitle\empty\else
1448 \par\noindent\@subtitlefont\@subtitle
1449 \fi
1450 \par\bigskip}}%

\mkauthors Typesetting authors
1451 \def\mkauthors{\begingroup
1452 \hsize=\textwidth

```

```

1453 \ifcase\ACM@format@nr
1454 \relax % manuscript
1455 \mkauthors@i
1456 \or% acmsmall
1457 \mkauthors@i
1458 \or % acmlarge
1459 \mkauthors@i
1460 \or % acmtog
1461 \mkauthors@ii
1462 \or % sigconf
1463 \mkauthors@iii
1464 \or % siggraph
1465 \mkauthors@iii
1466 \or % sigplan
1467 \mkauthors@iii
1468 \or % sigchi
1469 \mkauthors@iii
1470 \or % sigchi-a
1471 \mkauthors@iv
1472 \fi
1473 \endgroup
1474 }

```

\@authorfont Somehow different conferences use different fonts for author names. Why?

```

1475 \def\@authorfont{\Large\sffamily}

```

\@affiliationfont Font for affiliations

```

1476 \def\@affiliationfont{\normalsize\normalfont}

```

Adjusting fonts for different formats

```

1477 \ifcase\ACM@format@nr
1478 \relax % manuscript
1479 \or% acmsmall
1480 \or % acmlarge
1481 \or % acmtog
1482 \def\@authorfont{\LARGE\sffamily}
1483 \def\@affiliationfont{\large}
1484 \or % sigconf
1485 \def\@authorfont{\LARGE}
1486 \def\@affiliationfont{\large}
1487 \or % siggraph
1488 \def\@authorfont{\normalsize\normalfont}
1489 \def\@affiliationfont{\normalsize\normalfont}
1490 \or % sigplan
1491 \or % sigchi
1492 \def\@authorfont{\bfseries}
1493 \def\@affiliationfont{\mdseries}
1494 \or % sigchi-a
1495 \def\@authorfont{\bfseries}

```

```

1496 \def\@affiliationfont{\mdseries}
1497 \fi

\mkauthors@i This is version used in most formats. Note that \and between authors with the same
affiliation becomes _and_:
1498 \def\mkauthors@i{%
1499 \def\@currentauthors{%
1500 \def\and{%
1501 \andify\@currentauthors\par\noindent
1502 \@currentauthors\def\@currentauthors{}}%
1503 \def\@author##1{%
1504 \ifx\@currentauthors\empty
1505 \gdef\@currentauthors{\@authorfont\MakeUppercase{##1}}%
1506 \else
1507 \g@addto@macro{\@currentauthors}{\and\MakeUppercase{##1}}%
1508 \fi
1509 \def\and{}}%
1510 \def\email##1##2{%
1511 \def\affiliation##1##2{%
1512 \ifx\@currentauthors\empty\else
1513 \andify\@currentauthors\par\noindent\@currentauthors
1514 \fi
1515 \def\@currentauthors{\def\@tempa{##2}\ifx\@tempa\empty\else
1516 \unskip, {\@affiliationfont##2}\fi\def\and{\par\noindent}}%
1517 \global\setbox\mktitle@bx=\vbox{\noindent\box\mktitle@bx\par\medskip
1518 \noindent\addresses\andify\@currentauthors\par\noindent\@currentauthors\par\medskip}%
1519 }

\mkauthors@ii This is version used in acmtog. A more vertical design
1520 \def\mkauthors@ii{\par\medskip
1521 \def\@currentauthors{%
1522 \def\and{%
1523 \def\@author##1{%
1524 \ifx\@currentauthors\empty
1525 \gdef\@currentauthors{\@authorfont
1526 \MakeUppercase{##1}}%
1527 \else
1528 \g@addto@macro{\@currentauthors}{\and\MakeUppercase{##1}}%
1529 \fi\def\and{}}%
1530 \def\email##1##2{%
1531 \def\affiliation##1##2{%
1532 \ifx\@currentauthors\empty\else
1533 \andify\@currentauthors\par\noindent\@currentauthors
1534 \fi
1535 \def\@currentauthors{\def\@tempa{##2}\ifx\@tempa\empty\else
1536 \par\noindent{\@affiliationfont##2}\fi
1537 \def\and{\par\noindent{\@affiliationfont and}\par
1538 \noindent\def\and{}}}%
1539 \global\setbox\mktitle@bx=\vbox{\noindent\box\mktitle@bx\par\medskip
1540 \noindent\addresses\andify\@currentauthors\par\noindent\@currentauthors\par\medskip}%

```

```

1541 }

\author@bx The box to put individual author to
1542 \newbox\author@bx

\author@bx@wd The width of the author box
1543 \newdimen\author@bx@wd

\author@bx@sep The separation between the author boxes
1544 \newskip\author@bx@sep
1545 \author@bx@sep=1pc\relax

\@mkauthors@iii The sigconf version. Here we use centered design with each author in a separate box.
1546 \def\@mkauthors@iii{%
First, we need to determine the design of the author strip. The boxes are separated by
\author@bx@sep plus two \author@bx@sep margins. This means that each box must
be of width  $(\texttt{\textbackslash textwidth} - \texttt{\textbackslash author@bx@sep})/N - \texttt{\textbackslash author@bx@sep}$ , where  $N$  is the
number of boxes per row.
1547 \author@bx@wd=\textwidth\relax
1548 \advance\author@bx@wd by -\author@bx@sep\relax
1549 \ifcase\num@authors
1550 \relax % 0?
1551 \or % 1=one author per row
1552 \or % 2=two authors per row
1553 \divide\author@bx@wd by \num@authors\relax
1554 \or % 3=three authors per row
1555 \divide\author@bx@wd by \num@authors\relax
1556 \or % 4=two authors per row (!)
1557 \divide\author@bx@wd by 2\relax
1558 \else % three authors per row
1559 \divide\author@bx@wd by 3\relax
1560 \fi
1561 \advance\author@bx@wd by -\author@bx@sep\relax
Now, parsing of \addresses:
1562 \gdef\@currentauthors{}%
1563 \gdef\@currentaffiliation{}%
1564 \def\@author##1{\ifx\@currentauthors\@empty
1565 \gdef\@currentauthors{\par##1}%
1566 \else
1567 \g@addto@macro\@currentauthors{\quad##1}%
1568 \fi}%
1569 \def\@email##1##2{\ifx\@currentaffiliation\@empty
1570 \gdef\@currentaffiliation{\nolinkurl{##2}}%
1571 \else
1572 \g@addto@macro\@currentaffiliation{\par\nolinkurl{##2}}%
1573 \fi}%
1574 \def\@affiliation##1##2{\ifx\@currentaffiliation\@empty
1575 \gdef\@currentaffiliation{##2}%

```

```

1576 \else
1577   \g@addto@macro\@currentaffiliation{\par##2}%
1578 \fi}%

Actual typesetting is done by \and macro
1579 \def\and{\bgroup\hsize=\author@bx@wd\def\and{\quad}%
1580   \global\setbox\author@bx=\vtop{\centering
1581     \@authorfont\@currentauthors\par\@affiliationfont
1582     \@currentaffiliation}\egroup
1583   \box\author@bx\hspace{\author@bx@sep}%
1584   \gdef\@currentauthors{}}%
1585   \gdef\@currentaffiliation{}}%

```

And here we use it:

```

1586 \hsize=\textwidth
1587 \global\setbox\mktitle@bx=\vbox{\noindent
1588   \box\mktitle@bx\par\medskip\leavevmode
1589   \lineskip=1pc\relax\centering\hspace*{-1em}%
1590   \addresses\and\par\bigskip}}

```

\@mkauthors@iv The sigchia version. Now we put authors in the main text, and no more than 2 authors per line.

```

1591 \def\@mkauthors@iv{%

```

First, we need to determine the design of the author strip. The boxes are separated by \author@bx@sep plus two \author@bx@sep margins. This means that each box must be of width $(\text{textwidth} - \text{author@bx@sep})/N - \text{author@bx@sep}$, where N is the number of boxes per row.

```

1592 \author@bx@wd=\columnwidth\relax
1593 \advance\author@bx@wd by -\author@bx@sep\relax
1594 \ifcase\num@authors
1595   \relax % 0?
1596 \or % 1=one author per row
1597 \else % 2=two authors per row
1598   \divide\author@bx@wd by 2\relax
1599 \fi
1600 \advance\author@bx@wd by -\author@bx@sep\relax

```

Now, parsing of \addresses:

```

1601 \gdef\@currentauthors{}}%
1602 \gdef\@currentaffiliation{}}%
1603 \def\@author##1{\ifx\@currentauthors\@empty
1604   \gdef\@currentauthors{\par##1}%
1605 \else
1606   \g@addto@macro\@currentauthors{\quad##1}%
1607 \fi}%
1608 \def\@email##1##2{\ifx\@currentaffiliation\@empty
1609   \gdef\@currentaffiliation{\nolinkurl{##2}}%
1610 \else
1611   \g@addto@macro\@currentaffiliation{\par\nolinkurl{##2}}%
1612 \fi}%

```

```

1613 \def\affiliation##1##2{\ifx\@currentaffiliation\@empty
1614 \gdef\@currentaffiliation{##2}%
1615 \else
1616 \g@addto@macro\@currentaffiliation{\par##2}%
1617 \fi}%

```

Actual typesetting is done by \and macro

```

1618 \def\and{\bgroup\hsize=\author@bx@wd\def\and{\quad}%
1619 \global\setbox\author@bx=\vtop{\raggedright
1620 \@authorfont\@currentauthors\par\@affiliationfont
1621 \@currentaffiliation}\egroup
1622 \box\author@bx\hskip\author@bx@sep
1623 \gdef\@currentauthors{}%
1624 \gdef\@currentaffiliation{}}%

```

And here we use it:

```

1625 \bgroup\hsize=\columnwidth
1626 \par\raggedright\leftskip=\z@
1627 \lineskip=1pc\noindent\addresses\and\par\bigskip\egroup}

```

\@authornotemark Adding footnotemark to authors

```

1628 \def\@authornotemark{\g@addto@macro\@currentauthors{\footnotemark}}

```

\@mkteasers Typesetting teasers

```

1629 \def\@mkteasers{%
1630 \ifx\@teaserfigures\@empty\else
1631 \def\@teaser##1{\par\bigskip\bgroup
1632 \captionsetup{type=figure}##1\egroup\par}
1633 \global\setbox\mktitle@bx=\vbox{\noindent\box\mktitle@bx\par
1634 \noindent\@teaserfigures\par\medskip}%
1635 \fi}

```

\@setaddresses This is an amsart macro, which we do not need.

```

1636 \def\@setaddresses{}

```

\@mkabstract Typesetting abstract

```

1637 \def\@mkabstract{\bgroup
1638 \ifx\@abstract\@empty\else
1639 {\if@ACM@journal
1640 \small\noindent
1641 \else
1642 \section*{ABSTRACT}%
1643 \fi
1644 \@abstract\par}%
1645 \fi\egroup}

```

\@mkbibcitation Print bibcitation format

```

1646 \def\@mkbibcitation{\bgroup
1647 \par\medskip\small\noindent{\bfseries ACM Reference format:}\par
1648 \noindent\authors. \@acmYear. \@title. \textit{\@journalNameShort}

```

```

1649 \@acmVolume, \@acmNumber, Article~\@acmArticle\
1650 (\@acmPubDate), \ref{TotPages}~pages.\par
1651 \noindent DOI: \nolinkurl{\@acmDOI}
1652 \par\egroup}

```

\@printendtopmatter End the top matter

```

1653 \def\@printendtopmatter{\par\medskip
1654 \ifcase\ACM@format@nr
1655 \relax % manuscript
1656 \noindent\hrulefill\par\medskip
1657 \or% acmsmall
1658 \noindent\hrulefill\par\medskip
1659 \or % acmlarge
1660 \noindent\hrulefill\par\medskip
1661 \or % acmtog
1662 \par\bigskip
1663 \or % sigconf
1664 \par\bigskip
1665 \or % siggraph
1666 \par\bigskip
1667 \or % sigplan
1668 \par\bigskip
1669 \or % sigchi
1670 \par\bigskip
1671 \or % sigchi-a
1672 \fi
1673 }

```

\@setthanks We redefine \@setthanks using \long

```

1674 \def\@setthanks{\long\def\thanks##1{\par##1\@addpunct.}\thankses}

```

3.12 Headers and Footers

We use fancyhdr for our headers and footers:

```

1675 \RequirePackage{fancyhdr}

```

\ACM@linecount@bx This is the box displayed in the review mode

```

1676 \if@ACM@review
1677 \newsavebox{\ACM@linecount@bx}
1678 \savebox{\ACM@linecount@bx}[4em][t]{\parbox[t]{4em}{%
1679 \newlength\ACM@linecount@bxht\setlength{\ACM@linecount@bxht}{-\baselineskip}
1680 \@tempcnta\@ne\relax
1681 \loop{\color{ACMRed}\scriptsize\the\@tempcnta}\@tempcnta\@ne
1682 \advance\@tempcnta by \@ne
1683 \addtolength{\ACM@linecount@bxht}{\baselineskip}
1684 \ifdim\ACM@linecount@bxht<\textheight\repeat}}
1685 \fi

```

\ACM@linecount How to display the box

```
1686 \def\ACM@linecount{%
1687   \if@ACM@review
1688   \begin{picture}(0,0)%
1689     \put(-26,-22){\usebox{\ACM@linecount@bx}}%
1690   \end{picture}%
1691   \fi}
```

standardpagestyle The pagestyle for all pages but the first one

```
1692 \fancypagestyle{standardpagestyle}{%
1693   \fancyhf{}%
1694   \renewcommand{\headrulewidth}{\z@}%
1695   \renewcommand{\footrulewidth}{\z@}%
1696   \ifcase\ACM@format@nr
1697   \relax % manuscript
1698     \fancyhead[RE]{\thepage}%
1699     \fancyhead[LO]{\ACM@linecount\thepage}%
1700     \fancyhead[LE]{\ACM@linecount\shortauthors}%
1701     \fancyhead[RO]{\shorttitle}%
1702     \fancyfoot[RO,LE]{\footnotesize Manuscript submitted to ACM}%
1703   \or % acmsmall
1704     \fancyhead[RE]{\sffamily\@acmArticle:\thepage}%
1705     \fancyhead[LO]{\ACM@linecount\sffamily\@acmArticle:\thepage}%
1706     \fancyhead[LE]{\ACM@linecount\sffamily\shortauthors}%
1707     \fancyhead[RO]{\sffamily\shorttitle}%
1708     \fancyfoot[RO,LE]{\footnotesize \@journalName, Vol. \@acmVolume, No.
1709       \@acmNumber, Article \@acmArticle. Publication date: \@acmPubDate.}%
1710   \or % acmlarge
1711     \fancyhead[LE]{\ACM@linecount\sffamily
1712       \@acmArticle:\thepage\quad\textbullet\quad\shortauthors}%
1713     \fancyhead[LO]{\ACM@linecount}%
1714     \fancyhead[RO]{\sffamily
1715       \shorttitle\quad\textbullet\quad\@acmArticle:\thepage}%
1716     \fancyfoot[RO,LE]{\footnotesize \@journalName, Vol. \@acmVolume, No.
1717       \@acmNumber, Article \@acmArticle. Publication date: \@acmPubDate.}%
1718   \or % acmtog
1719     \fancyhead[LE]{\ACM@linecount\sffamily
1720       \@acmArticle:\thepage\quad\textbullet\quad\shortauthors}%
1721     \fancyhead[LO]{\ACM@linecount}%
1722     \fancyhead[RO]{\sffamily
1723       \shorttitle\quad\textbullet\quad\@acmArticle:\thepage}%
1724     \fancyfoot[RO,LE]{\footnotesize \@journalName, Vol. \@acmVolume, No.
1725       \@acmNumber, Article \@acmArticle. Publication date: \@acmPubDate.}%
1726   \else % Proceedings
1727     \fancyfoot[R]{\footnotesize\thepage}%
1728     \fancyhead[L]{\ACM@linecount}%
1729   \fi
1730 }
1731 \pagestyle{standardpagestyle}
```

```

\@folio@wd Folio blob width, height, offsets and max number
\@folio@ht 1732 \newdimen\@folio@wd
\@folio@voffset 1733 \@folio@wd=\z@
\@folio@max 1734 \newdimen\@folio@ht
1735 \@folio@ht=\z@
1736 \newdimen\@folio@voffset
1737 \@folio@voffset=\z@
1738 \def\@folio@max{1}
1739 \ifcase\ACM@format@nr
1740 \relax % manuscript
1741 \or% acmsmall
1742 \@folio@wd=45.75pt\relax
1743 \@folio@ht=1.25in\relax
1744 \@folio@voffset=.2in\relax
1745 \def\@folio@max{8}
1746 \or % acmlarge
1747 \@folio@wd=43.25pt\relax
1748 \@folio@ht=79pt\relax
1749 \@folio@voffset=.55in\relax
1750 \def\@folio@max{10}
1751 \fi

\@folioblob The macro to typeset the folio blob.
1752 \def\@folioblob{\@tempcnta=\@acmArticleSeq\relax
First, we calculate \@acmArticleSeq modulo \@folio@max
1753 \loop
1754 \ifnum\@tempcnta>\@folio@max\relax
1755 \advance\@tempcnta by - \@folio@max
1756 \repeat
1757 \advance\@tempcnta by -1\relax
1758 \@tempdima=\@folio@ht\relax
1759 \multiply\@tempdima by \the\@tempcnta\relax
1760 \advance\@tempdima by -\@folio@voffset\relax
1761 \begin{picture}(0,0)
1762 \makebox[\z@]{\raisebox{-\@tempdima}{%
1763 \rlap{%
1764 \raisebox{-0.45\@folio@ht}{\z@}\z@}{%
1765 \rule{\@folio@wd}{\@folio@ht}}}%
1766 \parbox{\@folio@wd}{%
1767 \centering
1768 \textcolor{white}{\LARGE\bfseries\sffamily\@acmArticle}}}}
1769 \end{picture}}
1770

firstpagestyle The pagestyle for all pages but the first one
1771 \fancypagestyle{firstpagestyle}{%
1772 \fancyhf{}%
1773 \renewcommand{\headrulewidth}{\z@}%

```

```

1774 \renewcommand{\footrulewidth}{\z@}%
1775 \ifcase\ACM@format@nr
1776 \relax % manuscript
1777 \fancyhead[L]{\ACM@linecount}%
1778 \fancyfoot[R0,LE]{\small\thepage}%
1779 \fancyfoot[RE,LO]{\footnotesize Manuscript submitted to ACM}%
1780 \or% acmsmall
1781 \fancyfoot[R0,LE]{\footnotesize \@journalName, Vol. \@acmVolume, No.
1782 \@acmNumber, Article \@acmArticle. Publication date:
1783 \@acmPubDate.}%
1784 \fancyhead[LE]{\ACM@linecount\@folioblob}%
1785 \fancyhead[LO]{\ACM@linecount}%
1786 \fancyhead[R0]{\@folioblob}%
1787 \fancyheadoffset[R0,LE]{0.6\@folio@wd}%
1788 \or % acmlarge
1789 \fancyfoot[R0,LE]{\footnotesize \@journalName, Vol. \@acmVolume, No.
1790 \@acmNumber, Article \@acmArticle. Publication date:
1791 \@acmPubDate.}%
1792 \fancyhead[R0]{\@folioblob}%
1793 \fancyhead[LE]{\ACM@linecount\@folioblob}%
1794 \fancyhead[LO]{\ACM@linecount}%
1795 \fancyheadoffset[R0,LE]{1.4\@folio@wd}%
1796 \or % acmtog
1797 \fancyfoot[R0,LE]{\footnotesize \@journalName, Vol. \@acmVolume, No.
1798 \@acmNumber, Article \@acmArticle. Publication date:
1799 \@acmPubDate.}%
1800 \fancyhead[L]{\ACM@linecount}%
1801 \else % Conference proceedings
1802 \fancyhead[L]{\ACM@linecount}%
1803 \fancyfoot[R]{\footnotesize\thepage}%
1804 \fi
1805 }

```

3.13 Sectioning

Fonts for sections etc. are different for different formats. Also, some formats use the ugly period after section number (sigh):

```

1806 \def\@secfont{\sffamily\bfseries\raggedright\MakeUppercase}
1807 \def\@subsecfont{\sffamily\bfseries\raggedright}
1808 \def\@subsubsecfont{\sffamily\itshape}
1809 \def\@parfont{\itshape}
1810 \setcounter{secnumdepth}{3}
1811 \ifcase\ACM@format@nr
1812 \relax % manuscript
1813 \or% acmsmall
1814 \or % acmlarge
1815 \def\@secfont{\sffamily\large\raggedright\MakeUppercase}
1816 \def\@subsecfont{\sffamily\large\raggedright}
1817 \or % acmtog

```

```

1818 \def\@secfont{\sffamily\large\raggedright\MakeUppercase}
1819 \def\@subsecfont{\sffamily\large\raggedright}
1820 \or % sigconf
1821 \def\@secfont{\bfseries\Large\raggedright\MakeUppercase}
1822 \def\@subsecfont{\bfseries\Large\raggedright}
1823 \or % siggraph
1824 \def\@secfont{\bfseries\sffamily\Large\raggedright\MakeUppercase}
1825 \def\@subsecfont{\bfseries\sffamily\Large\raggedright}
1826 \or % sigplan
1827 \def\@secfont{\bfseries\Large\raggedright\MakeUppercase}
1828 \def\@subsecfont{\bfseries\Large\raggedright}
1829 \or % sigchi
1830 \setcounter{secnumdepth}{1}
1831 \def\@secfont{\bfseries\sffamily\raggedright\MakeUppercase}
1832 \def\@subsecfont{\bfseries\sffamily\raggedright}
1833 \or % sigchi-a
1834 \setcounter{secnumdepth}{0}
1835 \def\@secfont{\bfseries\sffamily\raggedright\MakeUppercase}
1836 \def\@subsecfont{\bfseries\sffamily\raggedright}
1837 \fi

```

\@adddotafter Add punctuation after the command

```

1838 \def\@adddotafter#1{#1\@addpunct{.}}

```

Sectioning is different for different levels

```

1839 \renewcommand\section{\@startsection{section}{1}{\z@}%
1840 {- .75\baselineskip \@plus -2\p@ \@minus -.2\p@}%
1841 {.25\baselineskip}%
1842 {\@secfont}}
1843 \renewcommand\subsection{\@startsection{subsection}{2}{\z@}%
1844 {- .75\baselineskip \@plus -2\p@ \@minus -.2\p@}%
1845 {.25\baselineskip}%
1846 {\@subsecfont}}
1847 \renewcommand\subsubsection{\@startsection{subsubsection}{3}{10pt}%
1848 {- .5\baselineskip \@plus -2\p@ \@minus -.2\p@}%
1849 {-3.5\p@}%
1850 {\@subsubsecfont\@adddotafter}}
1851 \renewcommand\paragraph{\@startsection{paragraph}{4}{\parindent}%
1852 {- .5\baselineskip \@plus -2\p@ \@minus -.2\p@}%
1853 {-3.5\p@}%
1854 {\@parfont\@adddotafter}}
1855 \renewcommand\part{\@startsection{part}{9}{\z@}%
1856 {-10\p@ \@plus -4\p@ \@minus -2\p@}%
1857 {4\p@}%
1858 {\@parfont}}

```

3.14 Theorems

acmplain The acmplain theorem style

```

1859 \newtheoremstyle{acmplain}%
1860   {.5\baselineskip \@plus.2\baselineskip
1861     \@minus.2\baselineskip}% space above
1862   {.5\baselineskip \@plus.2\baselineskip
1863     \@minus.2\baselineskip}% Space below
1864   {\itshape}% body font
1865   {\parindent}% indent amount
1866   {\scshape}% head font
1867   {.}% punctuation after head
1868   {.5em}% spacing after head
1869   {\thmname{#1}\thmnumber{ #2}\thmnote{ (#3)}}% head spec

acmdefinition The acmdefinition theorem style
1870 \newtheoremstyle{acmdefinition}%
1871   {.5\baselineskip \@plus.2\baselineskip
1872     \@minus.2\baselineskip}% space above
1873   {.5\baselineskip \@plus.2\baselineskip
1874     \@minus.2\baselineskip}% Space below
1875   {\normalfont}% body font
1876   {\parindent}% indent amount
1877   {\itshape}% head font
1878   {.}% punctuation after head
1879   {.5em}% spacing after head
1880   {\thmname{#1}\thmnumber{ #2}\thmnote{ \itshape(#3)}}% head spec

The definitions for theorems:
1881 \theoremstyle{acmplain}
1882 \newtheorem{theorem}{Theorem}[section]
1883 \newtheorem{conjecture}[theorem]{Conjecture}
1884 \newtheorem{proposition}[theorem]{Proposition}
1885 \newtheorem{lemma}[theorem]{Lemma}
1886 \newtheorem{corollary}[theorem]{Corollary}
1887 \theoremstyle{acmdefinition}
1888 \newtheorem{example}[theorem]{Example}
1889 \newtheorem{definition}[theorem]{Definition}

proof We want small caps proof name
1890 \renewenvironment{proof}[1][\proofname]{\par
1891   \pushQED{\qed}%
1892   \normalfont \topsep6\p@\@plus6\p@\relax
1893   \trivlist
1894     \item[\indent\hskip\labelsep
1895       \scshape
1896       #1\@addpunct{.}]\ignorespaces
1897 }{%
1898   \popQED\endtrivlist\@endpfalse
1899 }

```

3.15 Conditional typesetting

We use the comment package for conditional typesetting:

```
1900 \if@ACM@screen
1901   \includecomment{screenonly}
1902   \excludecomment{printonly}
1903 \else
1904   \excludecomment{screenonly}
1905   \includecomment{printonly}
1906 \fi
1907 \if@ACM@anonymous
1908   \excludecomment{anonsuppress}
1909 \else
1910   \includecomment{anonsuppress}
1911 \fi
```

3.16 End of Class

```
1912 \normalsize\normalfont
1913 \</class>
```

References

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Change History

v1.00		\acmDOI: Name change by Matthew	
General: First released version	18	Fluet	39
v1.01		\acmISBN: Name change by Matthew	
General: Changed hyperref colors in screen mode (closes https://github.com/borisveytsman/acmart/issues/1)	18	Fluet	39
Defined ACM colors	18	General: Updated bibliography for siggraph	18
Explicitly put draft option (closes https://github.com/borisveytsman/acmart/issues/4)	20	v1.05	
Set headheight to 1pc for all formats (closes https://github.com/borisveytsman/acmart/issues/5)	18	General: Added processing doi numbers for acmsiggraph and doi numbers for sigproc.bib	18
v1.02		Patched \setcitestyle command; closes https://github.com/borisveytsman/acmart/issues/19	18
General: Added TOPS and TSC (closes https://github.com/borisveytsman/acmart/issues/12)	18	v1.06	
Documentation changes (closes https://github.com/borisveytsman/acmart/issues/13)	18	\@ACM@badge@skip: Added macro	39
v1.03		\@ACM@badge@width: Added macro	39
\@formatdoi: Added macro	44	\@ACM@title@width: Added macro	39
\if@ACM@authorversion: Added macro	19	\@mktitle@i: Added processing badges	51
\maketitle: Added special case of authorversion	46	Made generic	51
General: Added anonsuppress environment	18	\@mktitle@ii: Now this macro is obsolete	52
Added authorversion option (closes https://github.com/borisveytsman/acmart/issues/9)	18	\@mktitle@iii: Added processing badges	52
v1.04		Made more generic	52
\acmArticleSeq: Name change by Matthew Fluet	38	\@mktitle@iv: Made more generic	52
		\@printtopmatter: Added processing badges	49
		\@subtitlefont: Added macro	51
		\@titlefont: Added macro	50
		\acmBadgeL: Added macro	40
		\acmBadgeR: Added macro	39
		\if@ACM@badge: Added macro	39
		v1.07	
		\maketitle: Corrected a bug with abstract footnotes	46
		Corrected a bug with permission and footnotes order	46

Index

Numbers written in *italic* refer to the page where the corresponding entry is described; numbers underlined refer to the code line of the definition; numbers in *roman* refer to the code lines where the entry is used.

Symbols		
\\$	1231, 1234	\@acmBadgeL@image 912, 914,
\.	368	1311, 1313, 1389,
\@	1030, 1033, 1038,	1398, 1400, 1422, 1424
	1042, 1045, 1048,	\@acmBadgeL@url 911,
	1050, 1131, 1138, 1151	913, 1312, 1399, 1423
\@@par	255, 306	\@acmBadgeR@image 907, 909,
\@ACM@badge@skip	903, 1314,	1316, 1318, 1393,
	1391, 1395, 1401,	1409, 1412, 1437, 1439
	1410, 1420, 1426, 1435	\@acmBadgeR@url 906,
\@ACM@badge@width	900, 1313,	908, 1317, 1411, 1438
	1318, 1390, 1394,	\@acmDOI 896,
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