LaTeX Bibilography and Citation

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Outline

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Manually Creating a Bibliography

- The bibliography is produced manually with the environment.

  \begin{thebibliography}{widest-entry}
  \bibitem[label1]{cite_key1} %bibliographic information
           ...
  \end{thebibliography}

- *label* is an optional argument and *cite_key* is a mandatory argument

- Without the optional argument label, *bibitem* produces a running number in square brackets as the label for the reference in the text. The citation numbers are defined by the order in which the keys appear on the \bibitem commands inside "thebibliography" environment.

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BIBLIOGRAPHY

[1] Boney, L., Tewfik, A.H., and Hamdy, K.N., "Digital Watermarks for Audio Signals," *Proceedings of the Third IEEE International Conference on Multimedia*, pp. 473-480, June 1996.

[2] Goossens, M., Mittelbach, F., Samarin, A *LaTeX Companion*, Addison-Wesley, Reading, MA, 1994.

[3] Kopka, H., Daly P.W., *A Guide to LaTeX*, Addison-Wesley, Reading, MA, 1999.

[4] Pan, D., "A Tutorial on MPEG/Audio Compression," *IEEE Multimedia*, Vol.2, pp.60-74, Summer 1998.

- With label, you can give whatever indicator you wish to see when you cite a reference, i.e. an abbreviation of the author's name and last two digits of the year.
- For the standard application with running numbers, widest entry is a dummy number with as many digits as the largest.
- The citation in the text itself is made with the command \cite{cite_key} where cite_key is the reference keyword that appears in the \bibitem command.

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Problems of this method.

- User is burdened with deciding how to format article titles,journal names,proceeding references.
- Difficult to reuse references in other documents.

Outline

1. Creating Bibliography with LATEX
   - Manually Creating a Bibliography

2. Creating a Bibliography Automatically Using BibTEX
   - Bib TEX

Bib TEX.

- With BibTEX, you can maintain a single database of bibliographic references and generate the references for your paper automatically, and apply a bibliographic style matching the requirements of the publisher.
- The bibliographic database is a plain textfile, which you can create and maintain e.g. with TEXnicCenter.
- A BibTEX database is stored as a .bib file. It is a plain text file, and so can be viewed and edited easily
- Each entry begins with the declaration of the reference type, in the form of @type. BibTEX knows of practically all types you can think of, common ones are: book, article, and for papers presented at conferences, there is inproceedings.

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Example DataBase Entries.

@article{greenwade93,
author = "George D.
Greenwade",
title = "The {C}omprehensive
{T}ex {A}rchive {N}etwork
({CTAN})",
year = "1993",
journal = "TUGBoat",
volume = "14",
number = "3",
pages = "342–351" }

@book{goossens93,
author = "Michel Goossens
and Frank Mittlebach and
Alexander Samarin",
title = "The LATEX
Companion",
year = "1993",
publisher = "Addison-Wesley",
address = "Reading,
Massachusetts" }

Standard Templates

@article An article from a magazine or a journal.

* Required fields: author, title, journal, year.

* Optional fields: volume, number, pages, month, note.

@book A published book

* Required fields: author/editor, title, publisher, year.

* Optional fields: volume/number, series, address, edition, month, note.

@booklet A bound work without a named publisher or sponsor.

* Required fields: title.

* Optional fields: author, howpublished, address, month, year, note.

@conference Equal to inproceedings

* Required fields: author, title, booktitle, year.

* Optional fields: editor, volume/number, series, pages, address, month, organization, publisher, note.

Getting current LATEX document to use your .bib file

- you need to place the following commands:

  \bibliographystyle{plain}
  \bibliography{sample1,sample2,...,samplen}

  > Note   the lack of whitespace between the commas and the
  > next bib file.

- Bibliography styles are files recognized by BibTEX that tell it how to format the information stored in the .bib file when processed for output.The style file in this instance is plain.bst

- The .bib file should be in the same directory as the LATEX Document.if your .bib file was elsewhere, you need to specify the path as well, e.g \bibliography{/some/where/sample}

- In order to get the references actually included, the BibTEX program has to be run, and after that LaTEX has to be run at least twice. In TEXnicCenter, this will be accomplished by just pressing the Build button a few times.

Types Of Documents Bib TEX Can Handle

- Article
- Book
- Booklet
- Inbook
- Incollection
- Inprocedings
- Manual
- Misc
- PhdThesis
- Proceedings
- Techreport
- Unpublished

Bibliography Style

- In LATEX, one can use a number of different bibliography styles. This style defines the layout of the pointers in the body text (e.g. "[1]"), as well as the layout of the reference list.
- Most common are abbrv, acm, alpha, apalike, ieeetr, plain, siam and unsrt.
- This is how the LATEX-source might look like:

  \bibliographystyle{ieeetr}
          % or: plain,unsrt,alpha,abbrv,acm,apalike,... ...
  \begin{document} ... Reference to a paper in proceedings
  \cite{fanty:icassp93}, to an article
  \cite{linde:tcom80}, and to a book
  \cite{abut:book90}. ...
  \bibliography{abbr_long,pubext} % expansion macro's +
          entries from pubext.bib ...
  \end{document}

Example outputs

ieeetr

Reference to a paper in proceedings [1], to an article [2], and to a book [3].

References

[1] M. Fanty, P. Schmid, and R. Cole, ``City name recognition over the telephone,'' in *Proc. International Conference on Acoustics, Speech and Signal Processing*, vol. I, (Minneapolis, U.S. 1993.

[2] Y. Linde, A. Buzo and R.M. Gray, ``An algorithm for vector quantizer design,'' *IEEE Transactions on Communications*, vol. 28, pp. 84-95, January 1980.

[3] H. Abut, ed., *Vector Quantization*. IEEE Press, 1990.

plain, abbrv

Reference to a paper in proceedings [2], to an article [3], and to a book [1].

References

[1] H. Abut, editor. *Vector Quantization*. IEEE Press, 1990.

[2] M. Fanty, Ph. Schmid, and R. Cole. City name recognition over the telephone. In *Proc. International Conference on Acoustics, Speech and Signal Processing*, volume I, pages 549-552, April 1993.

[3] Y. Linde, A. Buzo and R.M. Gray. An algorithm for vector quantizer design. *IEEE Transactions on Communications*, 28(1):84-95, January 1980.

Example Outputs

unsrt

Reference to a paper in proceedings [1], to an article [2], and to a book [3].

References

[1] M. Fanty, Ph. Schmid, and R. Cole, City name recognition over the telephone. In *Proc. International Conference on Acoustics, Speech and Signal Processing*, volume I, pages 549-552,
   April 1993.

[2] Y. Linde, A. Buzo and R.M. Gray. An algorithm for vector quantizer design. *IEEE Transactions on Communications*, 28(1):84-95, January 1980.

[3] H. Abut, editor. *Vector Quantization*. IEEE Press, 1990.

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alpha

Reference to a paper in proceedings [FSC93], to an article [LBG80], and to a book [Abu90].

References

[Abu90] H. Abut, editor. *Vector Quantization*. IEEE Press, 1990.

[FSC93] M. Fanty, Ph. Schmid, and R. Cole. City name recognition over the telephone. In *Proc. International Conference on Acoustics, Speech and Signal Processing*, volume I, pages 549-
   U.S.A., April 1993.

[LBG80] Y. Linde, A. Buzo and R.M. Gray. An algorithm for vector quantizer design. *IEEE Transactions on Communications*, 28(1):84-95, January 1980.

Styles Describtion

plain.bst The entries in the bibliography are ordered
             alphabetically; each is assigned a running number in
             square brackets as the in-text reference marker,
             printed where \cite commands are issued.

alpha.bst Entries ordered alphabetically (same as plain), and
             markers are an abbreviation of the author's name with
             year of publication. For instance, a reference to Smith
             (1987) would appear as [Smi87].

Tips on Bibliography

Including URLs in bibliography

- There is no field for URLs. One possibility is to include Internet addresses in howpublished field of @misc or note field of @techreport, @article,@book:
  - HOWPUBLISHED =
    "\url{http://www.fermentas.com/techinfo/nucleicacids/maplambda.h

    Note the usage of \url command to ensure proper appearance of URLs.
- You need to use \usepackage{url}

Cross refrencing

- BibTeX allows referring to other publications via the crossref field. In the following example

Tips on Bibliography

```
@INPROCEEDINGS {author:06,
 title    = {Some publication title},
 author   = {First Author and Second Author},
 crossref = {conference:06},
 pages    = {330-331},
}
@PROCEEDINGS {conference:06,
 editor    = {First Editor and Second Editor},
 title     = {Proceedings of the Xth Conference on XYZ},
 booktitle = {Proceedings of the Xth Conference on XYZ},
 year      = {2006},
 month     = oct,
}
```

Tips on Bibliography

Customizing bibliography appearance

- A bibliography style file (.bst) will tell LATEX how to format each attribute, what order to put them in, what punctuation to use in between particular attributes etc. Unfortunately, creating such a style by hand is not a trivial task. Which is why Makebst (also known as custom-bib) is the tool we need.

- Makebst can be used to automatically generate a .bst file based on your needs. It is very simple, and actually asks you a series of questions about your preferences. Once complete, it will then output the appropriate style file for you to use.

- For reference http://tex.aanhet.net/miktex/04bibtex_p.pdf.

Citation

- Go to the point where you want the citation to appear, and use the following: \cite{cite_key}, where the cite_key is that of the bibitem you wish to cite.
- When LATEX processes the document, the citation will be cross-referenced with the bibitems and replaced with the appropriate number citation. The advantage here, once again, is that LATEX looks after the numbering for you.

Referring More Specific

- Sometimes you want to refer to a certain page, figure or theorem in a text book. For that you can use the arguments to the \cite command:

  \cite[p.215]{citation01}
- The argument, "p. 215", will show up inside the same brackets

Citation

Multiple Citations

- When a sequence of multiple citations are needed, you should use a single \cite{} command. The citations are then separated by commas. Here's an example:

  \cite{citation01,citation02,citation03}

No cite

- If you only want a reference to appear in the bibliography, but not where it is referenced in the main text, then the \nocite{} command can be used, for example:
  - Lamport showed in 1995 something... \nocite{lamport95}.
- \nocite{*}, includes all entries from the database, whether they are referenced in the document or not.

Natbib

- Using the standard LaTeX bibliography support, you will see that each reference is numbered and each citation corresponds to the numbers. The numeric style of citation is quite common in scientific writing. In other disciplines, the author-year style, e.g., (Roberts, 2003), such as Harvard is preferred.
- \usepackage{natbib}
- you need to change the bibliography style file to be used, so edit the appropriate line at the bottom of the file so that it reads: \bibliographystyle{plainnat}
- for further reference
  http://merkel.zoneo.net/Latex/natbib.php

Natbib commands

Citation command	Output
`\citet{goossens93}`	Goossens et al. (1993)
`\citep{goossens93}`	(Goossens et al., 1993)
`\citet*{goossens93}`	Goossens, Mittlebach, and Samarin (1993)
`\citep*{goossens93}`	(Goossens, Mittlebach, and Samarin, 1993)
`\citeauthor{goossens93}`	Goossens et al.
`\citeauthor*{goossens93}`	Goossens, Mittlebach, and Samarin
`\citeyear{goossens93}`	1993
`\citeyearpar{goossens93}`	(1993)
`\citealt{goossens93}`	Goossens et al. 1993
`\citealp{goossens93}`	Goossens et al., 1993

Natbib Compatible styles

Natbib-compatible styles

Style	Source	Description
plainnat	Provided	natbib-compatible version of plain
abbrvnat	Provided	natbib-compatible version of abbrv
unsrtnat	Provided	natbib-compatible version of unsrt
apsrev	REVTeX 4 home page 🔗	natbib-compatible style for Physical Review journals
rmpaps	REVTeX 4 home page 🔗	natbib-compatible style for Review of Modern Physics journals
IEEEtranN	TeX Catalogue entry 🔗	natbib-compatible style for IEEE publications
achemso	TeX Catalogue entry 🔗	natbib-compatible style for American Chemical Society journals
rsc	TeX Catalogue entry 🔗	natbib-compatible style for Royal Society of Chemistry journals