BibLaTeX: Bibliographies in LaTeX

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Bibliographies in LaTeX

- You can create simple ones within basic LaTeX.

- `BibTeX` is both a file format (.bib file) as well as a program which runs externally to LaTeX itself to process the references in a document. Limited to ASCII character set.

- `natbib` is a LaTeX package which allows customization of citation styles (especially author-year format), but still makes use of BibTeX.

- `BibLaTeX` is a LaTeX package which replaces the external BibTeX program. Because it is written in LaTeX, it allows more control over bibliographies, and it handles UTF-8 encoding, unlike BibTeX.

- NOTE: Many journals still require the use of BibTeX or natbib.

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Bibliographies in LaTeX

- Let's start with an example: https://www.overleaf.com/read/vxfnvrxybtgg

- Two files are needed: the document file (`main.tex`), and the bibliographic database (`tiny.bib`).

- Within `main.tex`, 3 commands are needed to create a bibliography:

- In the preamble:

  - \usepackage[backend=biber,sortcites]{biblatex}

  - \addbibresource{tiny.bib}

  - And \printbibliography in the body of the document, where you wish the bibliography to appear.

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Bibliographies in LaTeX

- Take a look at `tiny.bib`, the bibliography database in this project.

- Each record is of the form:

```
@kind{key,
    info = value,
    info = value,
      .
      .
      .
    }
```

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Document "kinds"

KIND	Description
@article	Journal Article
@book	Published Book
@booklet	Book (no publisher)
@inproceedings	Article in a conference proceedings
@manual	Technical documentation
@misc	Other
@online	Web page or online resource
@reference	Reference work (dictionary, etc.)
@report	Research report
@thesis	Any kind of thesis (use **type** to specify)
@unpublished	Not yet published

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Document "info"

Info	Info
@author	@month
@chapter	@note
@date	@pages
@doi	@publisher
@edition	@subtitle
@institution	@title
@isbn	@type
@issn	@url
@journaltitle	@urldate
@keywords	@version
@location	@year

Bibliographies in LaTeX

Info includes author. The author can include multiple authors joined with and:

Author = {1st author and 2nd author and 3rd author}

Names can be listed as First M. Last or Last, First M.

The Last, First M. form is preferable, particular for complicated names.

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BibLaTeX options

KIND	Description
backend=biber	Use biber for sorting citations (preferred)
backend=bibtex	Use bibtex for sorting citations
backend=bibtex8	Use bibtex8 for sorting citations
bibencoding=latin1	Bibfile encoding ISO-Latin1, if different from main.tex
bibencoding=utf8	Bibfile encoding UTF8, if different from main.tex
defernumbers	Safe (but slow) method to assign reference numbers
maxbibnames=n	Maximum number of authors listed in bibliography (default is 3)
minbibnames=n	Number of authors in abbreviated lists (et al. default is 1)
sortcites	Sort citation sequences
sortlocale	Sort bibliography according to local rules, default is English
style=xxx	Specifies bibliography style to use

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Citations with \cite

As seen in `main.tex` the \cite command is used within the text to reference something. You can cite multiple documents at one time:

\cite{TeX-book,Breaklines}

\cite takes optional arguments, which specify pre- and post-fix text:

Command	Output
\cite{Tex-book}	[4]
\cite[44]{Tex-book}	[4, p. 44]
\cite[Ref][]{Tex-book}	[Ref 4]
\cite[See also][xiv]{Tex-book}	[See also 4, p. xiv]

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Other forms of \cite

In order to output particular information for a reference in a citation, there are alternate forms of \cite

Command	Output
\citeauthor{Tex-book}	Knuth
\citetitle{Tex-book}	*The TeXbook*
\citeurl{biber}	http://www.ctan.org/tex-archive/biblio/biber
\citeyear{Tex-book}	1984
\footcite{Tex-book}	As a footnote[11]
\parencite{Tex-Book}	(Knuth 1984)
\textcite{Tex-Book}	Knuth [4]

[11] Knuth, *The TeXbook*

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Standard Citation Styles

The citation style you select controls how the references appear in the text. The default style is "numeric" which simply puts a number in the text indicating a reference. Be sure to use "sortcites" option with numeric, so that [9, 11, 10, 8, 3, 9] becomes [3, 8, 9 ,10, 11]

The Compressed Numeric style (numeric-comp) is will group successive references together [10, 12, 7, 5, 2, 3, 11, 4] becomes [2-5, 7, 10-12]

Standard Citation Styles

The alphabetic style uses the authors name and year of publication to create the reference: [Knu84]

The author-year style uses authors last name and year. Note that you'll want to use the \parencite version to include parentheses: (Knuth 84)

The author-title style uses authors last name and the title. Note that you'll want to use the \parencite version to include parentheses: (Knuth, *The TeXbook*)

Contributed Citation Styles

In addition to the standard styles, there are some other styles which have been included to follow APA style, University of Chicago Press style, as well as the "Vancouver" style.

They are invoked:

\usepackage[backend=biber, style=apa]{biblatex}

\usepackage[backend=biber, authordate]{biblatex-chicago}

\usepackage[backend=biber, style=vancouver]{biblatex}

Other Capabilities

You can split the bibliography to separate the books from the articles. Use the "type" option in \printbibliography to do this. You can then label each of these sections of the bibliography using the "title" option

\printbibliography[type=articles, title=Articles]

\printbibliography[type=book, title=Books]

Creating your .bib file

How do you create the database file containing all of your references?

You can type them all in by hand, but that it tedious and can introduce errors.

Use your bibliographic management system to gather and format the references, and then export to a .bib file.

Endnote, Mendeley, Refworks, and **Zotero** all allow you to output your references in the proper format to a .bib file.

Note: you can output all of your references into a .bib file, even ones not cited in your paper. LaTeX won't include uncited references in the bibliography!