

# Making your bibliography using Bib $\text{\LaTeX}$

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# Bibliographies

Every master's thesis needs a good bibliography, but

- there are many bibliography styles
- it is difficult to have consistent typography throughout a long document
- sorting represents extra work

Bib<sub>A</sub>T<sub>E</sub>X has a good solution to these problems.

# Overview

- 1 Creating a bibliography database
- 2 Writing your thesis
- 3 Processing your thesis
- 4 The result

## Creating a database

A Bib<sub>AT</sub>E<sub>X</sub> database is a text file containing information on every document you have ever read.

```
@article{Breaklines,  
  author = {Donald E. Knuth and Michael F. Plass},  
  title = {Breaking Paragraphs into Lines},  
  journaltitle = {Software---Practice and Experience},  
  volume = 11,  
  year = 1981,  
  pages = {1119-1184}  
}  
  
@book{TeX-book,  
  author = {Donald E. Knuth},  
  title = {The {\TeX}book},  
  publisher = {Addison-Wesley},  
  year = 1984,  
  isbn = "0-201-03801-3"  
}  
  
@book{LaTeX2,  
  author = {Leslie Lamport},  
  title = {{\LaTeX}: A Document Preparation System: User's  
  Guide \& Reference Manual},  
  publisher = {Addison-Wesley},  
  year = 1994,  
  edition = 2,  
  isbn = "0-201-52983-1"
```



Each entry consists of

- a document kind specification (@article, @book etc).
- a unique document key (chosen by you)
- a list of key-value-pairs:
  - author = "..."
  - title = "..."
  - pages = "..."
  - isbn = "..."
  - url = "..."
  - ...

## Some advice on creating the database:

- The values are enclosed in either {...} or "... " (except single numbers).
- Names may be given as either **Donald E. Knuth** or **Knuth, Donald E.**
- If there are several authors, you place an **and** between them.
- If capitalization must *not* be changed, add an extra set of braces ({} around that part.
- Supply all the information you have on a document — Bib<sub>A</sub>T<sub>E</sub>X will only use what is relevant for the chosen bibliography style.

## Using citations

When you write your article or your thesis, you can reference the documents in your database.

```
\documentclass[12pt,a4paper,UKenglish]{article}
\usepackage[utf8]{inputenc}
\usepackage[T1]{fontenc,url}
\usepackage{babel,csquotes,newcent,textcomp}
\usepackage[backend=biber,sortcites]{biblatex}

\title{Line breaking in \TeX}
\author{Dag Langmyhr\ Department of Informatics\
  University of Oslo\ E-mail: \url{dag@ifi.uio.no}}

\addbibresource{mini.bib}

\begin{document}
\maketitle

\section{Introduction}
The \TeX\cite{TeX-book} program uses an advanced
algorithm for breaking the lines in a paragraph.
This algorithm is based on work done by Michael
Plass\cite{Breaklines} and Donald Knuth in 1981.

\printbibliography
\end{document}
```

The following lines relate to the bibliography:

- `\usepackage{babel,csquotes,newcent,textcomp}`  
Package **csquotes** should always be included.
- `\usepackage[backend=biber,sortcites]{biblatex}`  
Use the **biblatex** package.
- `\addbibresource{mini.bib}`  
Specify the name of the bibliography database.
- `\cite{TeX-book}` and `\cite{Breaklines}`  
Reference the bibliography using the unique key.
- `\printbibliography`  
Indicate where in your article or thesis you want your bibliography.



## Line breaking in T<sub>E</sub>X

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In the resulting document, we see that

- All `\cite` commands have been replaced by the actual citations [1] and [2].
- The bibliography is included, but with only the referenced documents.
- The bibliography is properly formatted.
- The bibliography is alphabetically sorted.

### 1 Introduction

The T<sub>E</sub>X[1] program uses an advanced algorithm for breaking the lines in a paragraph. This algorithm is based on work done by Michael Plass[2] and Donald Knuth in 1981.

### References

- [1] Donald E. Knuth. *The T<sub>E</sub>Xbook*. Addison-Wesley, 1984. ISBN: 0-201-03801-3.
- [2] Donald E. Knuth and Michael F. Plass. 'Breaking Paragraphs into Lines'. In: *Software—Practice and Experience* 11 (1981), pp. 1119–1184.

There are several bibliography styles included

## Various bibliography styles

### style=numeric (default)

The  $\TeX$ [1] program uses an advanced algorithm for breaking the lines in a paragraph. This algorithm is based on work done by Michael Plass[2] and Donald Knuth in 1981.

#### References

- [1] Donald E. Knuth. *The  $\TeX$ book*. Addison-Wesley, 1984. ISBN: 0-201-03801-3.
- [2] Donald E. Knuth and Michael F. Plass. 'Breaking Paragraphs into Lines'. In: *Software—Practice and Experience* 11 (1981), pp. 1119–1184.

### style=numeric-comp

is an improvement:

$$[10,7,12,7,5,2,3,11,4] \Rightarrow$$
$$[2-5,7,10-12]$$

### style=alphabetic

The  $\TeX$ [Knu84] program uses an advanced algorithm for breaking the lines in a paragraph. This algorithm is based on work done by Michael Plass[KP81] and Donald Knuth in 1981.

#### References

- [Knu84] Donald E. Knuth. *The  $\TeX$ book*. Addison-Wesley, 1984. ISBN: 0-201-03801-3.
- [KP81] Donald E. Knuth and Michael F. Plass. 'Breaking Paragraphs into Lines'. In: *Software—Practice and Experience* 11 (1981), pp. 1119–1184.



There are several bibliography styles included

## style=authoryear

The TeX (Knuth 1984) program uses an advanced algorithm for breaking the lines in a paragraph. This algorithm is based on work done by Michael Plass (Knuth and Plass 1981) and Donald Knuth in 1981.

### References

- Knuth, Donald E. (1984). *The TeXbook*. Addison-Wesley. ISBN: 0-201-03801-3.
- Knuth, Donald E. and Michael F. Plass (1981). 'Breaking Paragraphs into Lines'. In: *Software—Practice and Experience* 11, pp. 1119–1184.

## style=authortitle

The TeX (Knuth, *The TeXbook*) program uses an advanced algorithm for breaking the lines in a paragraph. This algorithm is based on work done by Michael Plass (Knuth and Plass, 'Breaking Paragraphs into Lines') and Donald Knuth in 1981.

### References

- Knuth, Donald E. *The TeXbook*. Addison-Wesley, 1984. ISBN: 0-201-03801-3.
- Knuth, Donald E. and Michael F. Plass. 'Breaking Paragraphs into Lines'. In: *Software—Practice and Experience* 11 (1981), pp. 1119–1184.



## Processing a Bib<sub>La</sub>T<sub>E</sub>X document

Bib<sub>La</sub>T<sub>E</sub>X requires an external processor; three are available:

**bibtex** is always available, but is very primitive.

**bibtex8** fixes some problems in bibtex, but not all.

**biber** is the modern one; you should always use that, if at all possible.

Run

```
$ pdflatex mydoc.tex
```

```
$ biber mydoc
```

```
$ pdflatex mydoc.tex
```

and your document is finished.

## Information

For more information, I recommend *Local guide to Bib<sub>A</sub>T<sub>E</sub>X* on <https://www.mn.uio.no/ifi/tjenester/it/hjelp/latex/biblatex-guide.pdf>.

If you encounter strange problems, you can always send an e-mail to [dag@ifi.uio.no](mailto:dag@ifi.uio.no).

**Good luck with your thesis!**