Cross-referencing, Producing Citations and Composing Bibliography in LaTeX

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Bibliography can be very easily managed in LaTeX and this tutorial will quickly explain how to get good results in relatively short time. There are mainly two frameworks which can be used — BibTeX and the `bibliography` environment. The latter might not be the most convenient one, and it will not be talked about much. What you do there is you enter the whole bibliography in the `bibliography` environment. Previously mentioned two choices are superior to this as the bibliography database can be edited with external programs and thus the productivity might increase.

If you feel that you want to read more about various bibliography formats, you can read it on the LaTeX wikibook[1] .[1]

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[1]The URL is https://secure.wikimedia.org/wikibooks/en/wiki/LaTeX/Bibliography_Management

1. Creating the Database and BibTeX usage

Before citing any authors one would need to create a database, which would consist of all things the author needs to cite. This might be everything, from articles to scientific blogs or something similar. Moreover, one might have different bibliography databases for different things (e.g. one for articles, one for books etc.). It does not matter in how many files do you have the bibliography list split, LaTeX will load all the files and you won't have to worry. This can be done with relatively easy commands shown in the listing 1 (if you are using BibTeX then these commands are inserted in the text, where you want the reference list to appear).

Listing 1: Example code to get BibTeX working

```
1  \bibliographystyle{plain}        % Load the plain style
2  \bibliography{file1, file2}      % Load the file1, file2 which are in
3                                   % the same directory as the .tex
4                                   % file.
```

And now we need to know how to create the database files themselves, namely, `file1` and `file2` files. These can be created either with a simple text editor while using templates from this link[2] where the way multiple authors are handled is described slightly above in the web page.

The bibliography can be created with software having a Graphical User Interface (GUI). This might be a much easier way for Windows and Mac users as the Operating Systems (OSes) tend to focus on GUI software rather then Command Line Interface (CLI) software. The list of supposedly good software for managing bibliography goes bellow:

JabRef This is a very good program written in JAVA, which means that it will work on all systems in the same way. So this can be used by **Linux**, **Mac** and **Windows** users.

BibDesk This is a quite good software package for **Mac** users which may be an alternative for the **JabRef**.

2. How to make citations

Since we have a database, from which we can get the citations and the information about the sources, we should now learn how to make the citations. Basically I can cite a source with a simple command `\cite{Knut:LaTeX1977}`, which will give me a citations. However, its appearance is determined by the style of the bibliography. The style can be altered via LaTeX packages, and it should be done as the last thing in your document. All the stiling and formatting should be taken care off at the last stage of your work. Just for the time being, let's suppose, that we are using the `plain` style which could be invoked as shown in the listing

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[2]The URL is https://secure.wikimedia.org/wikibooks/en/wiki/LaTeX/Bibliography_Management#Standard_templates

1. The `\cite` command would just give you a bracketed citation like "[1]", or "[2,3,4]", or even "[2-4]". For the later two examples one should use `\cite{source1,source2,source3}` structure to get the formating as above.

If you want some source to appear in the bibliography list, but do not have any particular reason to cite it, just issue `\nocite{somesource}` command.

If you want several sources to appear under the same number (eg. "[7]"), but in the bibliography list it to appear as a itemized list (ie. 7.a)...b)...c)...), then you should use the `mciteplus` package. Its documentation can be found following this link[3], but the same functionality is provided by the `achemso package`, so if you use achemso you **do not** need to include the `mciteplus` package. Once you have the necessary packages loaded, you can just issue `\cite{source1, *source2, *source3}` to get the desired effect. However there are several limitations:

- `\cite{source1, *source2, source3}` will give you an error as the `source3` is not preceded with a "*" symbol.

- if you use `\cite{source1, *source2, *source3}` in the text, the next time you want to cite the source, remember to use

```
1 \cite{source1, *source2, *source3}
```

or

```
1 \cite{source1, *source2}
```

but not

```
1 \cite{source1, source2}
```

as it will also give you an error.

- Other limitations can be found talked about in the documentation of the package.

3. The cite package usage

If you want to gain more control over how the citations appear in the text, you can use the `cite` package. Like all packages, it is invoked with `\usepackage[]{cite}` written in the preamble where the options to the package go between the "[]" brackets. It would worth reading about the options on your-own in the documentation of the package which can be found through this link[4]. Please, read it before you use it!

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[3]The URL is http://mirror.ctan.org/macros/latex/contrib/mciteplus/mciteplus_doc.pdf
[4]The URL is http://mirrors.ctan.org/macros/latex/contrib/cite/cite.pdf

4. The natbib package usage

The `natbib` package can give you more styles of citations and it provides eveon more extensibility than the `cite` package. If you feel, that the `cite` package does not provide what you want, please try this package and please read about it on [this source][5].

The documentation can be found [here][6], whereas a useful reference-sheet-web-page can be found [here][7].

5. The achemso packge usage

Achemso package might be very useful for many people who want to get the citations as superscripts and the Bibliography list as in the American Chemistry Society (ACS) journals. If you use it, be sure, that you do not use natbib, cite or any other packages which manage bibliographies, as you can experience unexpected results while theses packages try to redefine the commands. For the usage of this package, please read the [documentation][8], however, it would be worthwhile to note, that for minimal results, you should try to include it into you preamble and then define the bibliography style as `achemso` as follows:

Listing 2: The achemso package usage

```
1  \documentclass{acticle}
2  ...
3  \usepackage{achemso}
4  ...
5  \begin{document}
6  ...
7  \bibliographystyle{achemso}
8  \bibliography{file1,file2,file3}
9  ...
10 \end{document}
```

If you want to customize the style of the citations, please refer to the package documentation.

6. The BibLATEX package usage

BibLATEX is thought to be a replacement for natbib and BibTEX in a long run and if you whant very quick answer to what exactly is BibLATEX, you should probably check [this link][] on `stackexchan.com` as it answers the question very well.

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[5] The URL is https://secure.wikimedia.org/wikibooks/en/wiki/LaTeX/Bibliography_Management#Natbib
[6] The URL is ftp://ftp.tex.ac.uk/tex-archive/macros/latex/contrib/natbib/natbib.pdf
[7] The URL is http://merkel.zoneo.net/Latex/natbib.php
[8] The URL is http://www.tex.ac.uk/ctan/biblio/bibtex/contrib/achemso/achemso.pdf

The main reason why you would want to try this package is that it can do the footnote references, whereas natbib can not. This turns out to be very useful when you are **not** allowed to have an extra page for the references. As for how to do this, follow this link[9].

Just a note, that most of the packages easing bibliography management, like natbib, mcite, and others do rely on BibTEX system and they **won't** work with BibLATEX, however, it provides all the functionality you would need and configuration syntax is cleaner. What is more, if you want to create your own style for displaying references, you do not need to create custom `.bst` files as all the formatting is done via LATEX macros. So if you know LATEX well, you will be able to come up with good bibliography style quite easily.

A. Acronyms used in the text

GUI Graphical User Interface

CLI Command Line Interface

OSes Operating Systems

ACS American Chemistry Society

References

[1] Wikibooks. Latex wikibooks: Bibliography management.

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[9]The URL is http://www.charlietanksley.net/philtex/proper-footnote-citations-with-latex/