1   Introduction

BibTeX automates most of the work involved in managing references for use in LaTeX files. You need to type each reference only once, and your citations and reference list are automatically outputted consistently, in a style of your choosing.

2   BibTex

To use BibTeX, here's what you need to do.

2.1   Create a bibliography database

A BibTeX database is stored as a .bib file. It is a plain text file, and so can be viewed and edited easily. The structure of the file is also quite simple. An example of a BibTeX entry:

```
@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 Mittelbach and Alexander Samarin",
    title     = "The LaTeX Companion",
    year      = "1993",
    publisher = "Addison-Wesley",
    address   = "Reading, Massachusetts"
}
```

You can either type the .bib file from scratch, or you may use existing BibTeX tools to make your life a little easier.

- **JabRef** runs on the Java VM, and should work equally well on Windows, Linux, and Mac OS X. It can also be used online without being installed

- **BibDesk** is a bibliographic reference manager for Mac OS X. It features a very usable user interface and provides a number of features like smart folders based on keywords and live tex display.

- **cb2Bib** is a tool for rapidly extracting unformatted, or unstandardized bibliographic references from email alerts, journal Web pages, and PDF files.

You can also export references from Google Scholar into BibTeX by clicking "cite" and then "import to BibTeX", or by choosing BibTeX in the "Bibliography manager" section of your Scholar Preferences.

2.2   Create a LaTeX file

After you have already created your bibliography database, you may want to use it in the actually paper that you are writing in LaTeX. Your LaTeX file needs to include citations, a reference to the BibTeX style file you want to use, and a command to generate the list of references. Here is an example:

```
\documentclass[12pt]{article}
\usepackage{natbib}

\begin{document}
\section{Introduction}
```

```
This document illustrates the use of BibTeX.  You may want to refer to
\cite{ahu61} or \cite{ab94} or \cite{m85}.  Or you may want to cite a
specific page in a reference, like this: see \citet[p.~199]{m85}.  Or
perhaps you want to cite more than one paper by Maskin: \cite{m85, m99}.

\bibliographystyle{te}

\bibliography{research}

\end{document}
```

There are several important commands to make BibTeX work:

- \usepackage{natbib}. Using the standard LaTeX bibliography support, you will need the package natbib. So, remember to include the package in your header.

- \bibliographystyle{te} tells BibTeX to use the style file te.bst when formatting the references. BibTex provides a large range of formatting styles that you may need. If you want to use the Modern Language Association (MLA) style, you can just change it to \bibliographystyle{mla}.

- \bibliography{research} tells BibTeX to create a list of references using those in the BibTeX file research.bib.

2.3   Run LaTeX and BibTeX

If you compile your .tex file now, you probably would notice that the reference does not show up in your output .pdf file. The addition of BibTeX adds extra complexity for the processing of the source to the desired output. This is largely hidden to the user, but because of all the complexity of the referencing of citations from your source LaTeX file to the database entries in another file, you actually need multiple passes to accomplish the task. This means you have to run LaTeX a number of times. Each pass will perform a particular task until it has managed to resolve all the citation references. Type the following commands into the terminal:

1. latex latex_source_code.tex (this will generate a document with question marks in place of unknown references)

2. bibtex latex_source_code.aux (this will parse all the .bib files that were included in the article and generate metainformation regarding references)

3. latex latex_source_code.tex (this will generate document with all the references in the correct places)

4. latex latex_source_code.tex (just in case if adding references broke page numbering somewhere)

Now, if we compile the above LaTeX file using those steps, we should get something like this:

1   Introduction

This document illustrates the use of BibTeX. You may want to refer to Arrow et al. (1961) or Aliprantis and Border (1994) or Maskin (1985). Or you may want to cite a specific page in a reference, like this: see Maskin (1985, p. 199). Or perhaps you want to cite more than one paper by Maskin: Maskin (1985). Or you want to make a parenthetical reference to one or more articles, in which case the `\citealt` in the `te.bst` bibliography style omits the parentheses? around the year (Arrow et al. 1961).

References

Aliprantis, C. D. and Border, K. C. (1994). *Infinite Dimensional Analysis.* Springer, Berlin.

Arrow, K. J., Hurwicz, L., and Uzawa, H. (1961). Constraint qualifications in maximization problems. *Naval Research Logistics Quarterly*, 8:175–191.

Maskin, E. S. (1985). The theory of implementation in Nash equilibrium: a survey. In Hurwicz, L., Schmeidler, D., and Sonnenschein, H., editors, *Social Goals and Social Organization*, pages 173–204. Cambridge University Press.