Introduction to BibTeX at UIC

Note for the LaTeX version of this Document

BibTeX is a LaTeX facility for creating bibliography files. The LaTeX manual, which is available through the bookstores, contains a section that explains BibTeX in general. For more information on BibTeX, enter:

```
INFORM BIBTEX
```

The LaTeX source files for the document "BibTeXing" are an example of BibTeXś use; they are on the `TEX` disk. To see these files, enter:

```
GETDISK TEX
FILELIST BTXDOC * *
```

The file `BTXDOC TEX` is the LaTeX input file for "BibTeXing", and the file `BTXDOC BIB` is the sample BibTeX bibliography used in the `BTXDOC TEX` file.
Because LaTeX cannot generate `LISTING` or `MEMO` type files which can be directly viewed at your terminal, there is not a complete viewable version any LaTeX formatted document. However, the text of this document has been is available for on `INFORM` on CMS for online viewing. ***The table of entry types and their fields and the sample bibliography are missing from viewable and*** `LISTING` ***file versions of this document.***
To print a personal copy of the entire document, use either the PRINTDOC or 2700 print options of INFORM, which are respectively, PF9 and PF14.

BibTeX

This is a quick reference on how to use BibTeX. Some knowledge about LaTeXand how to use it at UIC is assumed. For more information on LaTeX, please enter `INFORM LATEX` in CMS.
First, create a bibliography database. The file can have any filename but the filetype must be `bib` (it will be referred to as `bib` file in this document).
A typical entry would look like the following:

```
@BOOK{Pascal_struc,
      AUTHOR = "Edward M. Reingold and Wilfred J. Hansen",
      TITLE ={Data Structures in Pascal},
      Publisher="Little, Brown and Company",
      Address={Boston},
      Pages=505,
      Year=1986
     }
```

The word following the "@" indicates the entry type. The first word after the "{" is the label that identifies a particular entry in the database. This label is the argument for the `\cite` command in the LaTeX file (in the above example the command would be `\cite{Pascal_struc}`). Each entry in the database has some required and some optional fields. For example, the `BOOK` entry type has 4 required fields
(`AUTHOR or EDITOR, PUBLISHER, TITLE, YEAR`)
and 6 optional fields (`VOLUME, SERIES, ADDRESS, EDITION, MONTH, NOTE`)
To see how the above example would look in the Bibliography, see [2]. For a complete list of entry types and fields, see Table 1.
Each field name is followed by an = (with or without spaces around it). The text corresponding to each field must be enclosed by either " (double quotes) or braces. The only exception is when text is only a number (see "pages" above). Each field entry ends with a comma except for the last one.

Text of the fields

Some fields are briefly described next. For a complete description of all of them, see [1] (File BTXDOC TEX on the TEX disk).

Author

The author's name can be typed in any of three ways:

```
``First von Last''
``von Last, First''
``von Last, Jr, First''
```

The first form is the preferred one. The bibliography style determines the format in which the name is printed. For multiple authors separate them with an "and". For more information refer to [1].

Title

The bibliography style determines whether or not the title is capitalized. You type a title the way it should appear if it is capitalized. BibTeX will change uppercase letters to lowercase letters if appropriate. If you do not want a capitalized letter to be changed to lowercase, you have to put it between braces (e.g. `{A}frica`).

Abbreviations

Abbreviations can be used in the database. Some are already set, like `jan, feb, mar`, etc. You can set your own abbreviations by putting a `@STRING` command in the `bib` file. This command can appear before or between the entries, but always before the string is used. For example,

```
@String{tug = "TUGboat, Communications of the TeX Users Group"}
```

then, I can specify the following:

```
. . .
TITLE= tug
. . .
```

Notes on usage

- The `\nocite{*}` command can be used to include every single entry in the database. They will be listed in database order.
- The `@string` field can be concatenated with other fields. For example:

  ```
  @String{WGA = "World Gnus Almanac"}
  ```

  can be concatenated

  ```
  @BOOK{almanac-66,
        title = 1967 # WGA,
        . . .       }
  ```

  The # is the concatenation character.
- You can use accented characters. The entire accented character must be within braces like `{\"o}` to get ö. The very first character after the brace must be the backslash.

Here are the steps you have to follow to get the bibliography:

1. Include the `\bibliography` command in the document where you want the references to appear. The argument to this command is a list of all the `bib` files that are referenced in your document. If more than one `bib` file is used, list the filenames separated by commas.
2. The `\bibliographystyle{`*style*`}` command should be placed after the `\begin{document}` command. The *styles* available are

plain Entries are sorted alphabetically and are labeled with numbers (like in this document).

unsrt Entries appear in the order in which they are cited in the text.

alpha The same as plain, but labels are formed with the author's name and the year of publication.

abbrv The same as plain except that first names, month names and journal names are abbreviated.

3. Let's work with an example. The file is called `DOCUMENT TEX`. The bibliography database file is called `BIBLIO BIB` (Remember to do a GETDISK TEX before you start).

   (a) First, LaTeX the file.

   ```
   LATEX DOCUMENT
   ```

   This step will produce LaTeX Warnings regarding unknown references. If any other errors occur, they should be fixed before executing the next step.

   (b) Second, you must run BibTeX

   ```
   BIBTEX DOCUMENT
   ```

   (c) LaTeX the file again

   ```
   LATEX DOCUMENT
   ```

   This step might still produce LaTeX Warnings, in which case you need to LaTeX the file again. No more LaTeX warnings regarding the citations should appear. Now you can print the file as usual.

For this example, these steps will produce the following files:

```
DOCUMENT TEX
BIBLIO BIB
DOCUMENT DVI
DOCUMENT AUX
DOCUMENT BBL
DOCUMENT BIBLOG
DOCUMENT TEXLOG
```

Table 0.1:

Bibliography

[1] Oren Patashnik. *BibTeX*, november 1985.

[2] Edward M. Reingold and Wilfred J. Hansen. *Data Structures in Pascal*. Little, Brown and Company, Boston, 1986.

Table 1: Entry types available in BibTeX with the required and optional fields for each entry type

	Entry type													
Field	Article	Book	Booklet	Conference	Inbook	Incollection	Inproceedings	Manual	Masterthesis	Misc.	PhdThesis	Proceedings	Techreport	Unpublished
Address		○	○	○	○	○	○	○	●		○	○	○	
Author	●	◇	○	●	◇	●	●	○	○	○	●	●	●	●
Booktitle				●		●	●							
Chapter					▷	○								
Edition		○			○	○		○						
Editor		◇		○	◇	○	○					○		
Howpublished			○							○				
Institution													●	
Journal	●													
Month	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Note	○	○	○	○	○	○	○	○	○	○	○	○	○	●
Number	○	⋆		⋆	⋆	⋆	⋆						○	
Organization				○			○	○				○		
Pages	○			○	▷	○	○							
Publisher		●		○	●	●	○					○		
School									●					
Series		○		○	○	○	○							
Title	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Type					○	○			○		○		○	
Volume	○	⋆		⋆	⋆	⋆	⋆							
Year	●	●	○	●	●	●	●	○	●	●	●	●	●	○

●= required,
○= optional,
◇= entries marked with this symbol are required but mutually exclusive,
▷= One or both of the entries are required,
⋆= entries marked with this symbol are optional but mutually exclusive.