Indexing and Bibliographies

Bibliographies

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This Presentation

- The bibliography file.
- Creating the .bib file.
- Inserting references in our document.
- Necessary commands (`\bibliographystyle`,`\bibliography`).
- Other bibliography styles.

Overview of Bibliographies

- Similar to table of contents, LaTeX is easily able to generate a bibliography at the end of our document.
- There are a handful of ways a bibliography can be generated: one method is using `\thebibliography` environment.
- We will be using BibTeX to generate our bibliographies—this is more automatic and is generally more appropriate for undergraduate students.
- *Not So Short Introduction* covers `thebibliography` method.

Overview of BibTeX

- The BibTeX is a program and file structure created by Leslie Lamport (the creator of LaTeX) and Oren Patashnik.
- Using BibTeX typically involves a command in the preamble defining the bibliography style, a command in the body where we want the bibliography inserted, and another file with a .bib extension with our bibliography information.
- A publications title, author(s), year of publication, publisher, etc., divided into fields in the .bib file.
- Depending on our bibliography style, LaTeX organizes the order of the fields into a recognizable bibliography style and displays it in our document.

The Bibliography File

- The most efficient use of BibTEXis creating our bibliography file as we research and write our paper.
- Authors that we don't reference simply will not be included in the bibliography.
- Bibliography files end in .bib, we can use our normal LATEX editor to create the bibliography file.
- No matter which bibliography style we use (e.g. MLA), the .bib file will look the same.
- The bibliography style is chosen in our .tex document.

The .bib File

- First, each bibliography entry will be defined by type (e.g. book, article, manual)—this will tell LaTeX how to organize the entries.
- The type is defined by `@book`, `@article`, `manual` for a book, article, and manual, respectively (later we will list typical entry types).
- Next to the entry type, we need to create a short name we will refer to each entry.

```
@article{Smith81,
```

- The name of this article entry is `Smith81`, which we will use when we reference this document.
- The open curly bracket { is important as well as the comma—we will close the bracket at the end of the bibliography entry.

The .bib File (con't)

- After declaring the entry type and its name, we start entering the fields of the entry.
- Fields are specific values, for instance, `author = {Matt Smith},` is the entry for the author.
- Typically in our .bib file, entries are indented and a linebreak after each field.
- The next slide gives an example of a bibliography entry.

Bibliography Example

```
@article{Dixit77,
author = {Avinash Dixit and Joseph
Stiglitz},
year = {1977},
title = {Monopolistic Competition and
Optimum Product Diversity},
journal = {American Economic Review},
volume = {67},
number = {3},
pages = {297-308},
}
```

Bibliography Example (con't)

- The supplemental document contains an example output of a bibliography, remember the style will differ depending on the style we choose (covered later in this lecture).
- However, it is important to note the ending curly bracket } that ends the bibliography entry.
- Also note the comma at the end of each field entry.
- Puttiing curly brackets around each field entry is optional, but suggested.
- In my experience, it's best to name each entry by the author's last name and the year of publication (i.e `Dixit77`) to easily remember.
- Now we can take a look of how to cite a reference.

Referencing

- In the body of our document, we will use commands to reference entries by the entry name we determined.
- We use the `\cite{`*name*`}` will cite *name* (i.e. where *name* would be `Dixit77` according to our earlier example).
- By default, LaTeX uses a numbering system for bibliographies—each bibliography entry is assigned a number by alphabetical order:

  [1] Dixit, Avinash and Joseph Stiglitz. Monopolistic Competition and Optimum Product Diversity. *American Economic Review*, **67**,3:297–308.

- In the document, the source will be cited by this number:

  Dixit and Stiglitz [1] created a mathematical version of monopolistic competition

Necessary commands

- Running a bibliography requires at least two commands; `\bibliographystyle{`*`style`*`}` and `\bibliography{`*`bibfile`*`}`.
- `\bibliographystyle{`*`style`*`}` can be placed anywhere in the document (preamble or body) as long as its before `\end{document}`.
- `\bibliography{`*`bibfile`*`}` can be placed anywhere before in the body, but this command starts the bibliography, so it should be placed immediately before `\end{document}`.

bibliographystyle Command

- `\bibliographystyle{`*`style`*`}` tells LaTeX the style we want for our bibliography.
- The `plain` style was shown earlier.
- The website contains links to other style examples, but these are unacceptable for classes.
- Later in the lecture, we will look at the `natbib` style.

bibliography Command

- `\bibliography{`*`bibfile`*`}` begins the bibliography file.
- *bibfile* is the .bib file we created, you do not have to insert .bib in this command.
- For example, if our bibliography was named *paperbib.bib* on our computer, then we'd use `\bibliography{paperbib}` as our command.
- If we have multiple bibliographies, we may separate them using a comma; for instance, if our .bib files were named *paperbib.bib* and *morebib.bib*, then we'd use `\bibliography{paperbib,morebib}`.
- Even when we start changing our bibliography styles, we do not have to change this command.

More Useful Bibliography Styles

- We mentioned earlier that the default or *plain* bibliography style is unacceptable for academia.
- We will introduce the `natbib` style, which is modeled on the MLA style.
- The website contains a link to a complete list of other acceptable styles.

More Useful Bibliography Styles

- To include the `natbib` style, we must use the `natbib` package: `\usepackage{natbib}`.
- With `natbib` loaded, we need to load the `plainnat` style using `\bibliographystyle{`*`plainnat`*`}`.

natbib: Citation Commands

- `natbib` has several *cite* commands for different outputs (we will use the `Dixit77` example from above (more on the website):

Command	Output
`\citet{Dixit77}`	Dixit and Stiglitz (1977)
`\citep{Dixit77}`	(Dixit and Stiglitz, 1977)
`\citealt{Dixit77}`	Dixit and Stiglitz 1977
`\citeauthor{Dixit77}`	Dixit and Stiglitz
`\citeyear{Dixit77}`	1977
`\citeyearpar{Dixit77}`	(1977)

- In general, `\citet` does not put parenthesis around the

Generating Bibliographies

- To generate the BibTeXfile, `bibtex` is used.
- Similar to a table of contents, we need to repeat a few commands to make sure LaTeX has the correct reference names (we will assume our document is named *capstone*:

```
latex capstone
bibtex capstone
latex capstone
latex capstone
```

Bibliography Review

- We assign values of the bibliography entry in the documents .bib file.
- `\cite{`*`name`*`} will cite the bibliography entry.`
- We need to commands for the bibliography: `\bibliographystyle{`*`style`*`}` is the bibliography style and `\bibliography` inserts the bibliography.
- The `natbib` style is preferred for homework.
- Look at the lecture notes for detailed examples, also look at the supplemental documents for a listing of bibliography styles (especially Reed University's website).