

Latex workshop

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Important characters

In \LaTeX certain characters do certain things.

- `\` this is used to introduce a command or instruction
- `&` this is used to separate entries in a table
- `{ }` - curly brackets are used to enclose commands or headings
- `$` - this introduces the maths environment and is useful for certain operators or symbols
- `%` is used to introduce a comment that won't appear in the final output. It can be useful for notes.
- accents use the `\` followed by either
~ ' ^ ~ ~
then a letter, e.g. `\'e` gives é.
- No matter how many spaces you use, it is still treated as one space.
- An empty line starts a new paragraph.

Concepts

- \LaTeX is a typesetting program.
- It gives you complete control over what your document will look like.
- Not “what you see is what you get”.
- You must structure your document properly.
- Layout is consistent throughout.
- Two parts to using \LaTeX :
 - Text editor (Texnicentre for Windows & Linux, Texshop for Mac)
 - \LaTeX distribution (Miktex for Windows & Linux, \LaTeX for Mac)
- \LaTeX creates a lot of little files when you run it. It is best to create a folder for each article.

Structure

There are certain elements of structure that are obligatory in \LaTeX . Certain information (about font, type of document, packages) goes in the “preamble” before you start your document.

You must then tell the computer what is the beginning and end of the document.

You do this by using the commands:

```
\begin{document}  
...  
\end{document}
```

Document classes

There are several different document classes. These are **book**, **report**, **article**, & **letter**.

There are also several options within the document class for fonts or page style etc.

```
\documentclass[11pt, twoside, a4paper]{article}
```

Making a master file/skeleton

When you write a large document, you want to split it into its separate chapters.

To do this you make a master “skeleton” file and **include** the chapters.

This means you only need to do the preamble once and you don't need to build the whole document every time you change something.

You can also have the title page, table of contents, list of figures, abstract in the skeleton file.

```
\maketitle  
\begin{abstract}... \end{abstract}  
\tableofcontents, \listoffigures, \listoftables  
\include{Methodology}
```

Chapters and sections

The choice of document class has implications for the chapter and sectioning commands.

L^AT_EX allows up to 7 levels of sectioning (not in letter) but it's unlikely you will ever use all of them.

```
\chapter{Methodology} (not in article)  
\section{Tasks}  
\subsection{Comprehension Task}  
\subsubsection{Phase A}
```

Tables: Tabular environment

- To create a table you use the tabular environment: you need to specific `\begin` and `\end`.
- The basic command looks like this

```
\begin{tabular}{table specification}
```
- Table specification: you can specify if the column is centred, left or right justified, if you want single, double or no lines between columns.
- Use `\hline` to insert a horizontal line.
- Use `&` to separate cells in rows and `\\` at the end of each line.

Tables: example Tabular

To have a three column table with the columns left, centred then right justified, with the first two columns separated by

```
\begin{tabular}{l | c r}
Name & Age & Gender \\ \hline
Joe & 12 & male \\
\end{tabular}
```

Name	Age	Gender
Joe	12	male

Tables: example Table

```
\begin{table}[htbp]
\begin{tabular}{l c c}
ID & gender & age \\ \hline
NS01 & male & 23 \\
NS02 & female & 24 \\
NS03 & male & 21 \\
\end{tabular}
\centering
\caption{Participants: Native Speaker controls}
\label{table:partns}
\end{table}
```

Tables: the Table environment

- The `table` environment surrounds the `tabular` environment.
- It allows you to insert details about where on the page the table should be, captions, labels etc.
- Position options are **h** (here), **t** (top of page), **b** (bottom) and **p** (on a dedicated page of tables)
- Labels allow you to refer to the table (or chapter, section, example) in the text and update automatically even if you move the examples around.
- If you want to refer to a label in the text you type `\ref{your label}`, e.g. `\ref{table:partns}`

ID	gender	age
NS01	male	23
NS02	female	24
NS03	male	21

Table: Participants: Native Speaker controls

Lists

There are three types of lists

Description, itemized and numbered lists

Each begins with `\begin` and ends with `\end`.

Each introduces an item with `\item` .

Lists: itemize

```
\begin{itemize}
\item The first item
\item The second item
\end{itemize}
```

This gives the following type of list (i.e with bullets):

- The first item
- The second item

Lists: description

```
\begin{description}
\item[The first item]
\item[The second item]
\end{description}
```

This gives the following type of list (i.e no numbers or bullets):

The first item

The second item

Lists: enumerate

To use the numbered lists (`enumerate`), you need to specify `\usepackage{enumerate}` in the preamble, i.e. before `\begin{document}`.

```
\begin{enumerate}
\item The first item
\item The second item
\end{enumerate}
```

This gives the following type of list (i.e with numbers):

- 1 The first item
- 2 The second item

Numbered examples and Glosses

One limitation of `enumerate` is that it won't do a continuous list

Use the `covington` style package

You will need to download this from CTAN www.ctan.org

Insert the following command in the `preamble`

```
\usepackage{covington}
```

Inserting pictures

To insert a picture or another file (e.g. a pdf output from SPSS) then you need to do two things.

- 1 Put the command `\usepackage{graphicx}` in the `preamble`.
- 2 Use the command `\includegraphics[width=.5\textwidth]{image.pdf}`.

You can also use the `figure` environment in the same way as the `table` environment to add captions, labels, etc.

You can specify the width in actual size (e.g. inches, cm) or as a percentage of the `textwidth` (as shown above).

Covington

```
\begin{examples}
\item John often kisses Marie.
\item \label{ex:svao} \gll Jean embrasse souvent Marie.
Jean kisses often Marie.
\glt '*John kisses often Marie'
\glend
\end{examples}
```

Example of picture/diagram insertion

Example of structure for inserting a diagram called `xbartree2.pdf`.

```
\begin{figure}[htbp]
\centering
\includegraphics[width=.5\textwidth]{xbartree2.pdf}
\caption{Basic underlying sentence structure}
\label{fig:basic_tree}
\end{figure}
```

Bibtex

- \LaTeX uses a sister program called **Bibtex** to order references.
- The easiest way to use bibdesk is with a software interface.
- For the Mac the best is called **Bibdesk** and for the PC **Jabref**.
- These are both freely available to download.
- You can export your Endnote or Refworks file to use with bibtex.
- Each reference is given a **citekey**, e.g. chom86. Each you can make it up or get it generated automatically.

Citation commands

The following options are for the citation for Chomsky 1986. For full details see the Natbib manual.

```
\citet{chom86} = Chomsky (1986)
\citep{chom86} = (Chomsky 1986)
\citet[22]{chom86} = Chomsky (1986:22)
\citep[see][22]{chom86} = (see Chomsky 1986:22)
\citet{chom86, chom05} = Chomsky (1986, 2005)
\citep[see, for example,][]{chom86, aug03}
= (see,for example, Auger 2003, Chomsky 1986)
```

Citations

- To use bibtex with \LaTeX you need to specify certain things in the **preamble** and also the **end of the document**.
- In the preamble, add the package **natbib**. This allows you to sort your citations. Also define the punctuation you want your citations to have.

```
\usepackage[sort]{natbib}
\bibpunct[: ]{({})}{,}{a}{,}{,}
```

- At the end of the document, you need to specify the style of bibliography and say where you want your bibliography to be. Usually this is the last thing before appendices and `\end{document}`.

```
\bibliographystyle{name of style, e.g. plain, apa}
\bibliography{filename for references}
```

Useful websites for help

This has been a brief introduction but there are a lot of helpful places to go to look for help and advice.

\LaTeX wikibook: <http://en.wikibooks.org/wiki/\LaTeX>

Leeds online help: <http://www.andy-roberts.net/misc/\LaTeX/index.html>

Natbib: <http://www.ctex.org/documents/packages/bibref/natbib.pdf>

Linguists: <http://www.essex.ac.uk/linguistics/external/clmt/\LaTeX4ling/>

Oxford Maths: <http://www.maths.ox.ac.uk/help/faqs/\LaTeX>