

HUMBOLDT-UNIVERSITÄT ZU BERLIN



LaTeX for Linguists

L4L 01: Basics

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MGK Workshop – SFB 1412, Berlin

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Reader & Webpage

LaTeX Reader (Freitag & Machicao y Priemer 2019b):
<https://doi.org/10.13140/RG.2.2.29299.27682>

Exercises and Handouts:
<https://www.linguistik.hu-berlin.de/de/staff/amyp/latex>

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What is LaTeX?

- LaTeX is a powerful typesetting system developed for complex scientific documents.
- $\tau\epsilon\chi$ (TeX) was developed between 1977 and 1986 by Donald E. Knuth.
- LaTeX is an interface with helpful macros for the TeX system. It was written by Leslie Lamport (= Lamport TeX).
- LaTeX works with **markup tagging conventions** – similar to HTML – ...
 - to define the structure of the document (e.g. chapters and sections),
 - for typographic marking (e.g. bold and italics),
 - for cross-references (e.g. citations)
 - ...

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WYSIWYG vs. WYGIWYN

- MS Word or Libre Office: **WYSIWYG** (*what-you-see-is-what-you-get*)

This is a headline

This word is **bold** and this one is in *italics*.

- LaTeX: **WYGIWYN** or **WYGIWYM** (*what-you-get-is-what-you-need/mean*)

▼ \section{This is a headline}

This word is \textbf{bold} and this one is in \textit{italics}.

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Why should I use it?

- You can save time (not a the very beginning!).
- You can concentrate on the content, your computer can take care of the styles.
- Your product looks very professional.
- TeX files are robust, lightweight, and can be versioned easily.
- Many editorials and conferences work with LaTeX and you have to use their style sheets.
- One program, all functions: article, book, poster, presentations, ...
- There is a big online community solving problems and giving suggestions for anything!
<https://tex.stackexchange.com>
 Really, anything: `_(\^)/_/` <https://tex.stackexchange.com/q/279100>
- It is for free.

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Why should I use it?

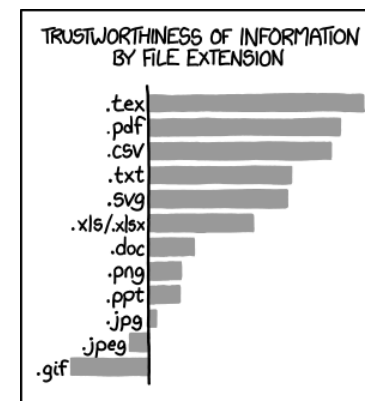


Figure 1: <https://xkcd.com/1301/>

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Examples

What can you do with L^AT_EX?

Books & Articles



Boundaries at play

Se in the Spanish psych domain

Antonio Machicao y Priemer and Paola Fritz-Huechante

In this paper, we model the left boundary data reading and the *two referential readings of the *se*-clitic* in the Spanish psychological domain. We argue that a lexical analysis of *se* provides us with a more accurate description of the different classes of psychological verbs that occur with the *clitic*. We provide a unified analysis where the use of the two readings of *se* are mediated by means of lexical rules. They take the morphologically simple but semantically complex base form (*se* [sɛ] 'self') as input and produce the semantically rich output, getting in the output a morphologically more complex but semantically simpler verb (e.g. *asustarse* 'get frightened'). The analysis for psych verbs conceivably allows for those verbs assigning precedence to the experiencer or the stimulus to combine with *se*, hence capturing different data without affecting the lexical analysis. The analysis also allows us to account for psychical and non psychical reading of psych verbs with *se* incorporating boundaries into the type hierarchy of mentalities.

Keywords: psych verbs, Spanish, cliticization, left bounded states, reflexive.

Introduction

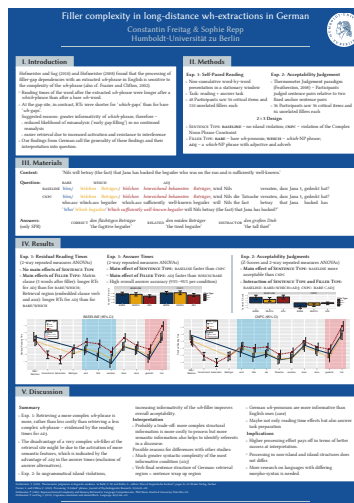
In Romance languages, verbs of emotion or psychological verbs (hereafter *psych verbs*), e.g. Italian *preoccupare* 'worry', *convincere* 'convince', participate in an alternation where one of their two arguments, the experiencer which is an animate entity capable of feeling an emotion, alternates between the subject (cf. (1b)) and the object of the sentence (cf. (2a)) (cf. French: Raset, 1972; Italian: Belletti & Rizzi, 1988; Italian, Greek and Romanian: Anagnostopoulou, 1999; Alexiadou & Iordachioiu, 2014a, 2015).¹

5. Other languages where the alternation has been attested: English (cf. Postal, 1971; Grimshaw, 1990; Levin, 1993:188–192; Arad, 1994a,b; Pesetsky, 1995), Finnish (cf. Pykkiläinen, 2000); for further typological studies, see Landau (2001), a.o.

<https://doi.org/10.1093/oxfordjournals.ajph.a002501>
 Linguae et litterae. *Journal of the American Academy of Religion*. 2009; 77(1): 67-94. doi:10.1093/jaarel/lap001

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Posters & Letters



Trees

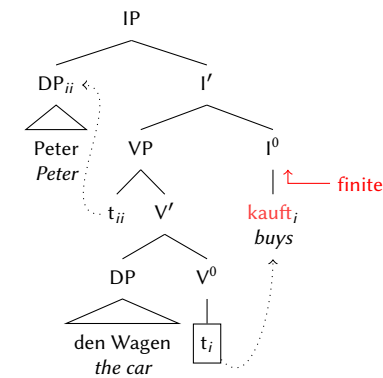


Figure 2: Movement

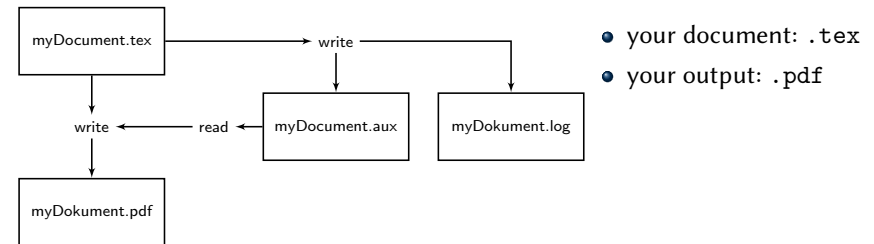
Glossing & IPA

- (1) a. Der Mann schläf-t.
 the.NOM man.NOM sleep -s
 'The man is sleeping.'
- b. Der Mann hat dem Jungen ein Buch über Linguistik
 the.NOM man.NOM has the.DAT boy.DAT a.ACC book.ACC about linguistics
 gegeben.
 give.PTCP.PRF
 'The man gave the boy a book about linguistics.'
- (2) a. (phonetics)
 b. /fə'.nɛ.tɪks/
 c. [fə'nɛtɪks]

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How does LaTeX work?

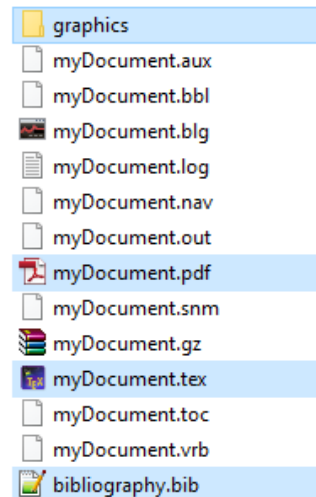
By compiling your document, LaTeX creates further **auxiliary files** to improve the next compilations.



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The auxiliary files can be **deleted** after your work is done. They will be created again when you compile.

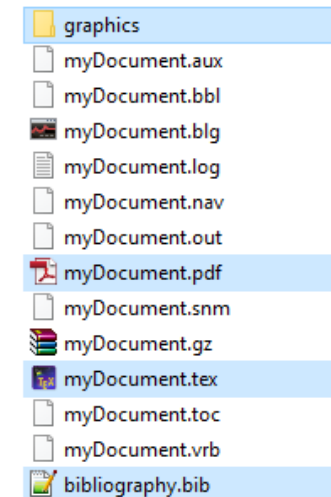
- .log → information about the compiling process
- .bbl → information for the bibliography
- .nav → information for the navigation through slides
- .toc → information for the table of contents
- ...



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The following files are important and **should not be deleted**. They are not created in the compiling process:

- .tex → this is the document you are working on.
- .pdf → you can delete your PDF, but this is what you normally want as result
- .bib → this file contains your bibliography data base (if you have one)
- folder graphics → here could be your graphics (if you need some)



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Overleaf

Overleaf is an online LaTeX editor.

- 1 Go to: <https://www.overleaf.com>
- 2 **Log in** (if you already registered).
- 3 You should all have got a link to an Overleaf project named after you which is still empty.
- 4 **Compile** your project: Click on the green button *Recompile* and see what happens.
The document can not be compiled since it is empty.
LaTeX needs some basic information to know how to properly compile your document.

You will find the tasks for our course here:

<https://www.linguistik.hu-berlin.de/staff/amp/latex>

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Document structure 1

A LaTeX document consists of (at least) two parts: **preamble** and **body**.

LaTeX preamble

part of the document that comes before `\begin{document}` where you define **global characteristics** of the document

LaTeX body

everything that comes after `\begin{document}` and before `\end{document}`, where you define **local characteristics** and where you write the **content** of your document

Exercise

- Insert the following lines in your .tex file and compile.

```

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% Compile: PDFLaTeX BibTeX PDFLaTeX PDFLaTeX
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

\documentclass{scrartcl}

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%% PACKAGES %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%% COMMANDS %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%% META DATA %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%% END PREAMBLE & BEGIN BODY %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
\begin{document}

  This is my first \LaTeX\ file.

\end{document}

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%% END BODY %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

```

- Write something after the `\end{document}` command and compile again.

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Document class

Global parameters of the layout can be specified in the `documentclass` command.
The most commonly used classes are:

- book for books
- article for articles, without chapters, only with sections
- beamer for presentations, without chapters, only with sections

Variations of these classes (not in American formats) are provided by the **KOMA-Script**:

- scrbook for books
- `scrartcl` for articles, without chapters, only with sections

(Cf. Kohm & Morawski (2014) and <https://www.komascript.de/>)

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You can specify **options** in your `documentclass` command.

- Font size** as default: 10pt, 11pt, 12pt
Default → 10pt
- Paper format** (in article): letterpaper, a4paper
Default → letterpaper
- Paper format** (in scrartcl): paper=a4, paper=letter
See KOMA-Script documentation (Kohm & Morawski 2014).

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Exercise

- Specify the following options for your document .tex file and compile.

```

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% Compile: PDFLaTeX BibTeX PDFLaTeX PDFLaTeX
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

\documentclass[10pt, paper=a4, abstracton]{scrartcl}

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%% PACKAGES %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%% COMMANDS %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%% META DATA %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%% END PREAMBLE & BEGIN BODY %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
\begin{document}

  This is my first \LaTeX\ file.

\end{document}

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%% END BODY %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
  
```

Meta data

Specifying the **meta data** of your document in the preamble:

```

\author{first name last name \and first name last name}
\title{my title}
\subtitle{my subtitle}
\date{14th Februar 2019}
  
```

- Other options for date: `\date{\today}`, `\date{}`
Default → `\date{\today}`

Use the command `\maketitle` after `\begin{document}` to include this information in your output.

Exercise

- Specify the meta data in your document with two authors, use the `\maketitle` command, and try different commands for date.

```

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% Compile: PDFLaTeX BibTeX PDFLaTeX PDFLaTeX
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

\documentclass[10pt, paper=a4, abstracton]{scrartcl}

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%% PACKAGES %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%% COMMANDS %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%% META DATA %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
\author{Antonio Machicao y Priemer \and Sebastian Nordhoff}
\title{\LaTeX\ for Linguists}
\subtitle{My first \TeX\ document}
\date{\today}

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%% END PREAMBLE & BEGIN BODY %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
\begin{document}

\maketitle

  This is my first \LaTeX\ file.

\end{document}

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%% END BODY %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
  
```

Loading Packages

- The functions L^AT_EX offers are restricted. Most **extra features** you will need come with **packages** that you can load in your .tex document.
- Packages must be loaded in the **preamble** of your document.

```
\usepackage[parameter1, parameter2]{package name}
```

- Normally, L^AT_EX packages are already **pre-installed** in your T_EX distribution (e.g. MiKTeX or TeXLive).
- Almost every other package (with manual) can be **downloaded** from CTAN – The Comprehensive T_EX Archive Network
- With the command `usepackage` your T_EX distribution loads the package – or **downloads it automatically** if necessary.

These packages are useful:

- Encoding (Input): `inputenc` `\usepackage[utf8]{inputenc}`
- Language package: `babel` `\usepackage[ngerman, english]{babel}`
- Encoding (Font): `fontenc` `\usepackage[T1]{fontenc}`
- Font: Latin Modern font family (or libertine) `\usepackage{lmodern}`
- Blind text: `blindtext` (or `lipsum`) `\usepackage{blindtext}`
- URLs: `url` `\usepackage{url}`
- Links and cross references: `hyperref` `\usepackage{hyperref}`
`\usepackage[bookmarksnumbered, hidelinks]{hyperref}`

Sometimes the **order** in the packages that have been installed can affect the compilation (e.g. `gb4e` and `forest`).

Also, not all packages are **compatible** with each other or with your compiler (XeLaTeX vs. PDFLaTeX).

Exercise

- Load the following packages in your document.

```
\documentclass[10pt, paper=a4, abstracton]{scrartcl}

%%%%%%%%%%%%%%%%%%%%%%%% PACKAGES %%%%%%%%%%%%%%%%%%%%%%%%%
\usepackage[utf8]{inputenc}
\usepackage[ngerman, english]{babel}
\usepackage[T1]{fontenc}
\usepackage{lmodern}
\usepackage{blindtext}
\usepackage{url}
\usepackage{hyperref}
```

- Change the option T1 to T3 for the package `fontenc` and see what happens. Go back to T1.
- After your sentence “This is my first LaTeX file.”, use the command `\blindtext` and see what happens.
- Delete the package `blindtext`, but keep using the command `\blindtext` and see what happens.
- Load the package `blindtext` again and recompile.

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Commands

In LaTeX, there are normally **3 types of commands**:

- **declarations**: backslash + command name
The scope of the command can be defined by an environment or with curly brackets.

```
\declaration ... {\Huge Hello world!} outside of scope
\declaration ...} outside of scope
```

- **simple commands**: backslash + command name + optional arguments (square brackets) + obligatory arguments (curly brackets)

```
\name[optional]{obligatory} \textit{Text in italics}
```

- **environments**: begin + end command.
Command applies between begin and end.

```
\begin{environment}[optional] \begin{center}
... Hello world!
\end{environment} \end{center}
```


Exercise

- Try the following code in your document:

```
\begin{document}

\maketitle

This is my first \LaTeX\ file. \blindtext

{\Huge Hello world!}

The word \textit{italics} is in \textit{italics}.

\begin{center}
Hello world!
\end{center}

\end{document}
```

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Characters & spaces

- The following characters can be used without problems:

```
a...z A...Z 0...9
. , ; : ? ! ' " ( ) + - * =
```

- The **umlauts** “ä, ö, Ä, Ö, ...”, **accents** “á, à, ...” and **eszett** “ß” (with PDF-LaTeX) can be used loading `\usepackage[utf8]{inputenc}`. Another option is to use **commands**:

```
\A \O \a \o \A \O \a \o \ss{} \u \n
\{A\} {\O} {\ss}
```

(3) Ä Ö ä ö à ò ß û ñ
Ä Ö ß

- The following characters have a **special meaning** in TeX. You must **escape** their function to use them. (It depends on your compiler e.g. XeLaTeX vs. PDFLaTeX)

```
# $ & _ { } \ < > | ~ ^ [ ] %
```

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- escaping with **backslash**

```
\# \$ \% \_ \{ \} \%
```

(4) # \$ & _ { } %

- escaping with **macros** or **math mode**

```
\textbackslash \textasciitilde \textasciicircum
\textgreater > \$ \textless < $ \textbar $ \vert $ $| $
```

(5) \ ~ ^ > > < < | | |

- Square brackets** [] can be used in plain text, but they can also mark the **option** of a command (e.g. in `\section[short title]{title}`). In this case use them in math mode `$$ text $$` for the brackets.

More on special characters:

https://en.wikibooks.org/wiki/LaTeX/Special_Characters

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Space, line break, and paragraph

L^AT_EX has a special treatment of **spaces** and **line breaks** to avoid typographic errors:

- **no difference** between **blank** and **tab**
- **Consecutive blanks** are treated as only one blank.
- A **blank/tab** at the **beginning of a line** is ignored.
- One **line break** (1x `<ENTER>`) is interpreted as a blank.
- One **empty line** (2x `<ENTER>`) is interpreted as the end of a paragraph.
- **More than one empty line** is interpreted as one empty line.

Further commands:

- **line break**: `\newline` or `\\` cause a line break without ending the paragraph.
- new **page**: `\newpage` or `\clearpage`
- `\noindent` **prevents** the **indentation** after a line break.

Example

```
This is      a sample      text with too  many spaces. Here, I use one
line break.
This is a sample text. Now, I use one blank line.

This is a sample text. Now, I use 3 blank lines.

This is a sample text.
```

This is a sample text with too many spaces. Here, I use one line break. This is a sample text. Now, I use one blank line.
This is a sample text. Now, I use 3 blank lines.
This is a sample text.

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Headlines

Commands for the structure of your text:

- `\part{title}` (only in book/scrbook and report/scrreprt)
- `\chapter{title}` (only in book/scrbook and report/scrreprt)
- `\section{title}`
- `\subsection{title}`
- `\subsubsection{title}`
- `\paragraph{title}`
- `\subparagraph{title}`

These commands can be used with an option, e.g.

```
\section[short title]{long title}
```

The text in the **option** – when used – appears in the **table of contents** and in the **headers**, otherwise only the text in the **argument** is used.

Table of contents

To **generate a table of contents** just include the following command in the body of your document at the position where you want the toc to appear.

LaTeX generates your toc taking the **information from your structuring commands** (e.g. `\section[short title]{title}`).

```
\tableofcontents
```

Exercise

- Put a section and a subsection in your document, add some dummy text.
- Add a table of contents after `\maketitle` and compile.

```
\begin{document}

\maketitle

\tableofcontents

\section[First section]{My First Section}

This is my first \LaTeX\ file. \blindtext

({\Huge Hello world!})

The word \textit{italics} is in italics.

\begin{center}
Hello world!
\end{center}

\subsection[First subsection]{My First Subsection}

\blindtext

\end{document}
```

- Delete the option `english` in the `babel` package. Compile and see what happens.

Exercise

- Step by step, add some errors to your document, recompile, check the error messages, fix the error and recompile.



- 1 Now, put in a chapter, compile, and see what happens. Fix it.
- 2 Remove one closing brace from a section command, recompile and see what happens. Fix it.
- 3 Change a `\section{}` to `\Section{}`, recompile and see what happens. Fix it.
- 4 Choose a section and remove the titles and braces. Recompile and see what happens. Fix it.

Footnotes

To generate a footnote, use the following command at the position where the **footnote index** should appear.

```
\footnote{content of the footnote}
```

Example

```
This is a sample text. The only purpose of this text\footnote{A text (literary theory) is any object that can be read.} is to show how to work with footnotes in \LaTeX\ .\footnote{\LaTeX\ is a document preparation system.}
```

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Cross references 1

To work with cross references, you need two things:

- 1 a label with an ID: `\label{ID}`
The ID must be **unique** for the labelled element in your document.
- 2 a reference: `\ref{ID}`
With the `ref` command, L^AT_EX will take the **number of the element labelled** with the given ID and use it for cross references.

The `label` command must **follow** (if possible: immediately) the element it is labelling.

The command `\pageref{ID}` will give you the **page** on which the labelled element appears.

```
\section{Introduction}
\label{sec:Intro}
```

To see how cross referencing works, take a look at Section `\ref{sec:Intro}` which is on page `\pageref{sec:Intro}`.

For long works, it is **useful** to have **prefixes**. They help you to find your references faster.

- `sec` for sections, subsections, ...
- `fig` for figures
- `tab` for tables
- `it` for numbered items in lists
- `eq` for equations
- `fn` for footnotes

```
\section{Introduction}
\label{sec:Intro}
```

To see how cross referencing works, take a look at Section `\ref{sec:Intro}` which is on page `\pageref{sec:Intro}`.

Exercise

- Add labels to all sections, subsections, and footnotes in your document.
- Write a sentence referring to all labels you have added.
- Use the `\pageref` command.

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Commenting out

In LaTeX, text following the character % in a line will be **ignored**.

- **hiding code/text**, without deleting it;
- **finding errors** in sections;
- **avoiding blanks** and **empty lines** in a long input line;
- **writing comments** without seeing it in the output.

```
This is a sample text. %These are just notes
%Here is a special characters and a command: & \small
```

```
A comment can divide a word:
Rindfleischetikettierungs% 5 morphemes
überwachungsaufgaben% 6 morphemes
übertragungsgesetz.
```

This is a sample text.

A comment can divide a word: Rindfleischetikettierungsüberwachungsaufgaben-
übertragungsgesetz.

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Text formatting

```
\textbf{bold}
\textit{italics}
\textsl{slanted}
\emph{emphasized}
{\it test \textup{upright} test}
\texttt{typewriter}
\textsc{small caps}
ex\textsuperscript{up}
ex\textsubscript{down}
```

bold
italics
slanted
emphasized
test upright test
typewriter
SMALL CAPS
ex^{up}
ex_{down}

Some of these commands can be also used as **declarations**.

```
\itshape or \it
\upshape
\scshape or \sc
\bfseries or \bf
\ttfamily or \tt
\sffamily or \sf
```

```
{\tiny tiny}
{\scriptsize scsize}
{\footnotesize fsize}
{\small small}
{\normalsize normal}
{\large large}
{\Large Large}
{\LARGE LARGE}
{\huge huge}
{\Huge Huge}
```

tiny
scsize
fsize
small
normal
large
Large
LARGE
huge
Huge

The commands for font size can be used as **declarations** or as **environments**.

```
\begin{huge}
Hello World!
\end{huge}
```

Exercise

- Play around with some of the following commands:

<code>\textit{}</code>	<code>\small</code>	<code>\itshape</code>
<code>\textbf{}</code>	<code>\large</code>	<code>\upshape</code>
<code>\textsc{}</code>	<code>\normalsize</code>	<code>\scshape</code>
<code>\textup{}</code>	<code>\footnotesize</code>	<code>\bfseries</code>
<code>\texttt{}</code>	<code>\scriptsize</code>	<code>\ttfamily</code>
<code>\emph{}</code>	<code>\tiny</code>	<code>\sffamily</code>
<code>\textsubscript{}</code>		
<code>\textsuperscript{}</code>		

- Try to embed them in other commands, e.g. for bold and italics or for small caps and bold.
- Use % to comment out some text.

1 What is LaTeX?

2 Overleaf

3 Document structure 1

4 Preamble

5 Commands

6 Characters & spaces

7 Document structure 2

8 Cross references 1

9 Commenting out

10 Text formatting

11 Text environments

Text environments

You will normally need the following text environments:

- quotations,
- lists,
- abstracts,

Quotations

There are two environments for quotations: `quote` and `quotation`. Both show a different output depending on the document class (e.g. `beamer` vs. `article`).

```
This is a sentence before the \texttt{quote} environment.
\begin{quote}
Furthermore, each actual “language” will incorporate a periphery of borrowings, historical
residues, inventions, and so on, which we can hardly expect to -- and indeed would not want
to -- incorporate within a principled theory of UG. [...]
```

```
Viewed against the reality of what a particular person may have inside his head, core
grammar is an idealization. \hfill (Chomsky,~1981:-8)
\end{quote}
This is a sentence after the \texttt{quote} environment.
```

This is a sentence before the `quote` environment.

Furthermore, each actual “language” will incorporate a periphery of borrowings, historical residues, inventions, and so on, which we can hardly expect to – and indeed would not want to – incorporate within a principled theory of UG. [...]

Viewed against the reality of what a particular person may have inside his head, core grammar is an idealization. (Chomsky, 1981: 8)

This is a sentence after the `quote` environment.

List environments

LaTeX has 3 pre-defined and 1 general list environments:

- `itemize`,
- `enumerate`,
- `description`,
- `list`.

Every environment begins with the `\begin{ }` and ends with the `\end{ }` command. Each point on the list begins with `\item`.

```
\begin{itemize}
\item syntax
\item semantics

\begin{itemize}
\item lexical semantics
\item propositional semantics
\end{itemize}

\item morphology
\end{itemize}
```

- syntax
- semantics
 - lexical semantics
 - propositional semantics
- morphology

The `description` list can be used for terms with their definitions.

```
\begin{description}
\item[Morpheme:] smallest grammatical unit in a language bearing a meaning

\begin{description}
\item[Allomorph:] (phonetic) variant of a morpheme
\end{description}

\item[Phoneme:] systematic unit of sound (or gesture in the case of sign
languages, see chereme) that distinguish one word from another in a particular
language
\end{description}
```

Morpheme: smallest grammatical unit in a language bearing a meaning

Allomorph: (phonetic) variant of a morpheme

Phoneme: systematic unit of sound (or gesture in the case of sign languages, see chereme) that distinguish one word from another in a particular language

Combining lists

Lists can be **combined** with and **embedded** in other list types.

```
\begin{description}
\item[Morpheme:] smallest grammatical
unit in a language bearing a meaning

\begin{itemize}
\item minimal unit in morphology
\item subtypes:

\begin{enumerate}
\item roots
\item prefixes
\item suffixes
\item \dots
\end{enumerate}
\end{itemize}
\end{description}
```

Morpheme: smallest grammatical unit in a language bearing a meaning

- minimal unit in morphology
- subtypes:
 - ① roots
 - ② prefixes
 - ③ suffixes
 - ④ ...

Customizing lists

Bullet points can be customized with an **optional parameter**.

```
\begin{itemize}
\item standard symbol
\item[+] customized
\item[--] customized
\item[--] customized
\end{itemize}
```

- standard symbol
- + customized
- customized
- customized

```
\begin{enumerate}
\item standard symbol
\item[+] customized
\item[+] customized
\item[+] customized
\item[+] customized
\item standard symbol
\end{enumerate}
```

- ① standard symbol
- + customized
- + customized
- customized
- ② standard symbol

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Abstract

For automatic abstracts, use the option `abstracton` in the `\documentclass` command.

```
\begin{abstract}
An abstract is a brief summary of a research article, thesis, or any in-depth
analysis of a particular subject and is often used to help the reader quickly
ascertain the paper's purpose.\par
When used, an abstract always appears at the beginning of a manuscript, acting
as the point-of-entry for any given academic paper.
\end{abstract}
```

Abstract

An abstract is a brief summary of a research article, thesis, or any in-depth analysis of a particular subject and is often used to help the reader quickly ascertain the paper's purpose.
 When used, an abstract always appears at the beginning of a manuscript, acting as the point-of-entry for any given academic paper.

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Exercise

- Download the PDF `myTeXguide01.pdf` and replicate its content changing your actual file. We are now building our own \LaTeX guide.
<https://www.linguistik.hu-berlin.de/de/staff/amypp/latex20sfb/mytexguide-01.pdf>
- Do not forget to label all sections (and subsections) as well as all footnotes.
- **EXTRA:**
 - Change your `documentclass` to `scrbook` and recompile. What differences do you see?
 - Add a `\chapter` above the `\sections` and recompile.
 - Change the `documentclass` back to `scrartcl` and recompile.
 - Comment out the line with `\chapter` and recompile.
 - Add some `\subsections` `\subsubsections` and `\paragraphs`.
 - Add `\tableofcontents` at the beginning, add another `\tableofcontents` at the end.

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