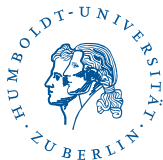


HUMBOLDT-UNIVERSITÄT ZU BERLIN



L^AT_EX for Linguists

L^AT_EX 2: Objects & Crossreferences

Sebastian Nordhoff & Antonio Machicao y Priemer

www.linguistik.hu-berlin.de/staff/amp

LOT 2019, Amsterdam

January 9, 2019

Contents

1 Graphics

- Including a graphic
- Rescaling the graphic
- Formats and paths

2 Tables

3 Floating environments

- How does L^AT_EX work?

4 Document structure 1

5 Document class

6 Commands

7 Document structure 2

- Headlines and paragraphs

- Table of contents

- Footnotes

8 Characters & spaces

- Special characters
- Space & line break

9 Commenting out

10 Text formatting

11 Text environments

- Quotations
- List environments
- Abstract

12 Installing packages

1 Graphics

2 Tables

3 Floating environments

4 Document structure 1

5 Document class

6 Commands

7 Document structure 2

8 Characters & spaces

9 Commenting out

10 Text formatting

11 Text environments

12 Installing packages

Including a graphic

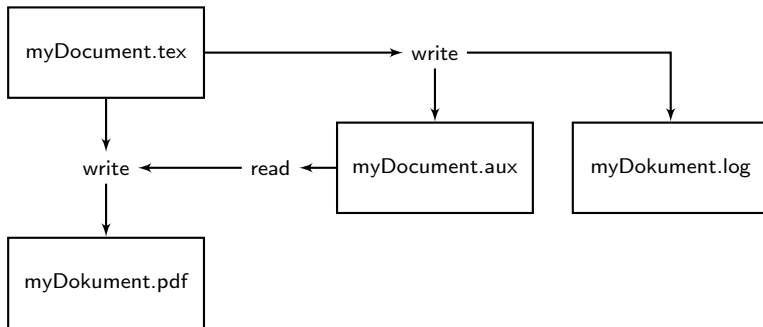
- Install the **package** `graphicx`: `\usepackage{graphicx}`
- To include the graphic, use the following command (**file ending**, i.e. `.pdf`, doesn't need to be added) :

```
\includegraphics[size of graphic]{path/name of graphic}
```

Including a graphic

- Install the **package** `graphicx`: `\usepackage{graphicx}`
- To include the graphic, use the following command (**file ending**, i.e. `.pdf`, doesn't need to be added) :

```
\includegraphics[size of graphic]{path/name of graphic}
```

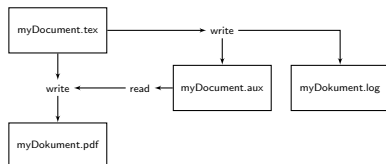


```
\includegraphics{LaTeX-flowchart-1.pdf}
```

Rescaling the graphic

Rescaling **relative** to the **original size** with the option `scale` (`scale=0.5` = 50 % of the original size)

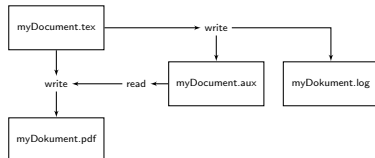
```
\includegraphics[scale=0.5]{LaTeX-flowchart-1.pdf}
```



Rescaling the graphic

Rescaling with **absolute** specification

```
\includegraphics[width=5cm]{LaTeX-flowchart-1.pdf}
\includegraphics[height=5cm]{LaTeX-flowchart-1.pdf}
```



Rescaling **relative** to the **document** size

```
\includegraphics[width=\linewidth]{LaTeX-flowchart-1.pdf}
\includegraphics[width=.2\linewidth]{LaTeX-flowchart-1.pdf}
\includegraphics[width=.2\textwidth]{LaTeX-flowchart-1.pdf}
```



Formats and paths

- The following **formats** can be used with Xe_LA_TE_X and PDF_LA_TE_X:
 - .pdf (vector graphics)
 - .png (raster graphics)
 - .jpg (raster graphics)

Formats and paths

- The following **formats** can be used with Xe^LA_TE_X and PDF^LA_TE_X:
 - .pdf (vector graphics)
 - .png (raster graphics)
 - .jpg (raster graphics)
- You must specify the place where you have saved the graphic **starting from the location of your .tex-file**.
 - ➊ Graphic and .tex-file are in the same folder:
`\includegraphics{LaTeX-flowchart-1}`
 - ➋ Graphic is in a folder `graphics`. This folder is in the same folder as your .tex-file:
`\includegraphics{graphics/LaTeX-flowchart-1}`
 - ➌ .tex-file is in a folder. This folder and your graphic are in the same folder:
`\includegraphics{../LaTeX-flowchart-1}`

1 Graphics

2 **Tables**

3 Floating environments

4 Document structure 1

5 Document class

6 Commands

7 Document structure 2

8 Characters & spaces

9 Commenting out

10 Text formatting

11 Text environments

12 Installing packages

Tables

- **environment** for tables: `tabular`
- optional argument for **position** of table
- obligatory argument for **layout** inside a column
- separation of table cells: `&`
- End of a row: `\\`

Tables

- **environment** for tables: `tabular`
- optional argument for **position** of table
- obligatory argument for **layout** inside a column
- separation of table cells: `&`
- End of a row: `\\`

Example:

```
sample text
\begin{tabular}[t]{l|c|r}
0001 & 002 & 03 \\
\hline
0A & 000B & 00C \\
\hline
00i & 0ii & 000iii \\
\end{tabular}
```

sample text	0001	002	03
	0A	000B	00C
	00i	0ii	000iii

- possible values for **option**: \top (top, (1)), \bot (bottom, (2)), or c (center, (3)) – Default: c

(1) \top : sample text

0001	002	03
0A	000B	00C
00i	0ii	000iii

- possible values for **option**: *t* (top, (1)), *b* (bottom, (2)), or *c* (center, (3)) – Default: *c*

(1) <i>t</i> : sample text	0001	002	03
	0A	000B	00C
	00i	0ii	000iii
	0001	002	03
(2) <i>b</i> : sample text	0A	000B	00C
	00i	0ii	000iii
	0001	002	03
	0A	000B	00C

- possible values for **option**: *t* (top, (1)), *b* (bottom, (2)), or *c* (center, (3)) – Default: *c*

(1) <i>t</i> : sample text	0001	002	03
	0A	000B	00C
	00i	0ii	000iii
(2) <i>b</i> : sample text	0001	002	03
	0A	000B	00C
	00i	0ii	000iii
(3) <i>c</i> : sample text	0001	002	03
	0A	000B	00C
	00i	0ii	000iii

- possible values for the **obligatory argument**: l (left), c (centered), r (right), p{length} (fixed width), optionally | (pipe, for vertical lines between columns)
- each column must have an alignment specification (i.e. l, c, r, or p)

```
\begin{tabular}[t]{l c | r | p{1.5cm}}
00001 & 002 & 03 & 0004 \\
\hline
0A & 000B & 00C & 0000D \\
\hline
00i & 0000ii & 000iii & iv \\
\end{tabular}
```

00001	002	03	0004
0A	000B	00C	0000D
00i	0000ii	000iii	iv

Two more helpful commands for tables:

- With `\multicolumn{number of cols}{alignment}{text}` text can occupy more than one column.
- With `\cline{cell number - cell number}` you can have horizontal lines specifying its begin (cell number) and end (cell number).

```
\begin{tabular}[t]{llr}
\multicolumn{2}{c}{Item} & \\
\cline{1-2}
article & unit & price \\
\hline
proofreading & per words & 0.02 \\
layout & per page & 0.80 \\
printing & per page & 0.99 \\
typesetting & per article & 40.33 \\
\end{tabular}
```

Item		
article	unit	price
proofreading	per words	0.02
layout	per page	0.80
printing	per page	0.99
typesetting	per article	40.33

1 Graphics

2 Tables

3 Floating environments

4 Document structure 1

5 Document class

6 Commands

7 Document structure 2

8 Characters & spaces

9 Commenting out

10 Text formatting

11 Text environments

12 Installing packages

Floating environments

- With floating environments, L^AT_EX puts figures or tables in the best position to avoid gaps in the layout.

It is not necessary that this text has any meaning.

```
\begin{table}[htbp]
\centering
```

```
\begin{tabular}[t]{l|l}
```

```
Eins & Zwei \\\
```

```
\hline
```

```
Drei & Vier \\\
```

```
\end{tabular}
```

```
\caption{Caption of my table}
```

```
\end{table}
```

It is not necessary that this text has any meaning.

Eins	Zwei
Drei	Vier

Table 1: Caption of my table

- floating for tables: `table`
- floating for figures: `figure`
- In the environment, the command `\caption{ }` can be used.
- Optionally, preferences for the position can be given: `h` (here), `t` (top), `b` (bottom), `p` (new page).
- Inside the environment, you can specify the position of the figure/table

```
\begin{figure}[htbp]
\centering

\includegraphics{LaTeX-flowchart-1.pdf}
\caption{My first float}
\end{figure}
```

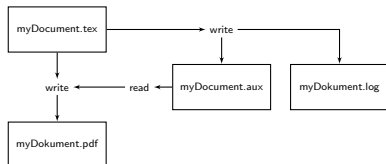
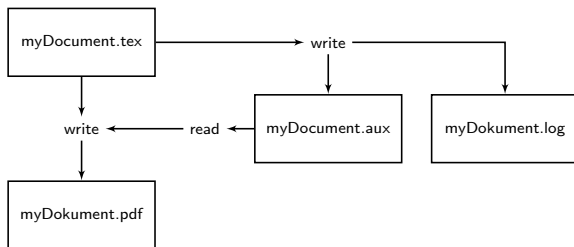


Fig. 1: My first float

How does L^AT_EX work?

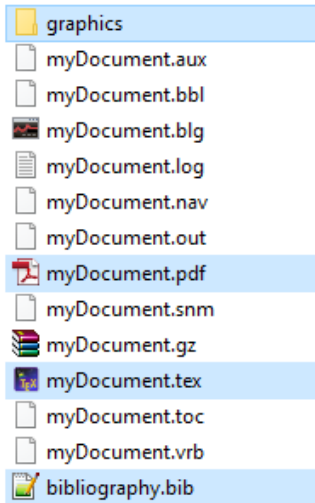
By compiling your document, L^AT_EX creates further **auxiliary files** to improve the next compilations.



- your document: `.tex`
- your output: `.pdf`

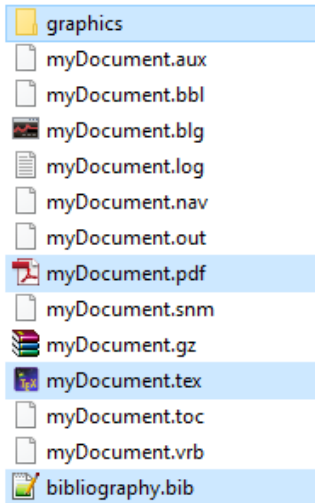
The auxiliary files can be **deleted** after your work is done. They will be created again when you compile.

- .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
- ...



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 your result
- .bib → this file contains your bibliography data base (if you have one)
- folder graphics → here could be your graphics (if you need some)



1 Graphics

2 Tables

3 Floating environments

4 Document structure 1

5 Document class

6 Commands

7 Document structure 2

8 Characters & spaces

9 Commenting out

10 Text formatting

11 Text environments

12 Installing packages

Document structure 1

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

L^AT_EX preamble

part of the document where **global characteristics** of the document are specified.

Document structure 1

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

L^AT_EX preamble

part of the document where **global characteristics** of the document are specified.

- The preamble **begins** (**obligatorily**) with the `\documentclass{}` command.
- In the preamble you will install **packages** for further L^AT_EX functions.
- **Optional** (either in the preamble or in the body – preferably in the preamble)
 - your **own commands** and
 - **metadata**
- The preamble **ends** with the command `\begin{document}`.

L^AT_EX body

part of the document where **local characteristics** of the document are specified and where you write your document.

L^AT_EX body

part of the document where **local characteristics** of the document are specified and where you write your document.

- The body **begins** with the `\begin{document}` command (end of preamble).
- The body **ends** with `\end{document}`.

L^AT_EX body

part of the document where **local characteristics** of the document are specified and where you write your document.

- The body **begins** with the `\begin{document}` command (end of preamble).
- The body **ends** with `\end{document}`.
- Everything following the command `\end{document}` will not be interpreted by L^AT_EX.

Exercise

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

```
%%%%%%%%%%PACKAGES%%%%%%%%%
% Compile: XeLaTeX BibTeX XeLaTeX XeLaTeX
%%%%%%%%%
\documentclass{scrartcl}

%%%%%%%%%
%%%%%%%%%COMMANDS%%%%%%%%%
%%%%%%%%%META DATA%%%%%%%%%
%%%%%%%%%END PREAMBLE%%%%%%%%%
%%%%%%%%%BEGIN DOCUMENT%%%%%%%%%

\begin{document}

This is my first \LaTeX file.

\end{document}

%%%%%%%%%END DOCUMENT%%%%%%%%%
```

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

Document class

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

- `book` for books
- `report` for long scripts with different chapters
- `article` for articles, without chapters, only with sections
- `letter` for letters

Document class

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

- `book` for books
- `report` for long scripts with different chapters
- `article` for articles, without chapters, only with sections
- `letter` for letters

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

- `scrbook` for books
- `scrreprt` for long scripts with different chapters
- `scrartcl` for articles, without chapters, only with sections
- `scrlettr2` for letters

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

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

- **Font size** as default: 10pt, 11pt, 12pt
Default → 10pt
- **Paper format**: letterpaper, a4paper
Default → letterpaper

Specification of paper format in KOMA-Script classes: `paper=a4`, `paper=letter`

Exercise

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

```

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% Compile: XeLaTeX BibTeX XeLaTeX XeLaTeX
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
\documentclass[10pt, paper=a4, abstracton]{scrartcl}

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% PACKAGES%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% COMMANDS%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% META DATA%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% END PREAMBLE%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% BEGIN DOCUMENT%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

\begin{document}

This is my first \LaTeX\ file.

\end{document}

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

```

1 Graphics

2 Tables

3 Floating environments

4 Document structure 1

5 Document class

6 Commands

7 Document structure 2

8 Characters & spaces

9 Commenting out

10 Text formatting

11 Text environments

12 Installing packages

Commands

Syntax of commands:

- backslash
 - + command name
 - + optional arguments in square brackets
 - + obligatory arguments in curly brackets

```
\name[optional argument]{obligatory argument}
```

```
\name[opt1, opt2=value]{obl1}{obl2}
```

```
\textbf{bold}
```

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

In L^AT_EX, there are normally **3 types of commands**:

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

```
\name[optional]{obligatory}
```

```
\textit{Text in italics}
```

In L^AT_EX, there are normally **3 types of commands**:

- **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]  
...  
\end{environment}
```

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

In L^AT_EX, there are normally **3 types of commands**:

- **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]
...
\end{environment}
```

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

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

```
\declaration ...
{\declaration ...} outside of scope
```

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

1 Graphics

2 Tables

3 Floating environments

4 Document structure 1

5 Document class

6 Commands

7 Document structure 2

8 Characters & spaces

9 Commenting out

10 Text formatting

11 Text environments

12 Installing packages

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 of your document with two authors, use the `\maketitle` command, and try different commands for date.

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

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

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

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

%%%%%%%%%%%%%END PREAMBLE%%%%%%%%%%%%%

%%%%%%%%%%%%%BEGIN DOCUMENT%%%%%%%%%%%%%

\begin{document}

\maketitle
```

Headlines and paragraphs

Commands for the structure of your text:

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

`[short title]` for **table of contents** and **header**

`{title}` for the title **in your text**

- new paragraph:
 - `\par` ends a paragraph (and begins a new one)
 - twice `<ENTER>` (`↵`) key
- line break
 - `\newline` or `\\` cause a line break without ending the paragraph
- `\noindent` prevents the indentation after a line break

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.

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

```
\tableofcontents
```

```
%%%%%%%%%%%%%BEGIN DOCUMENT%%%%%%%%%
```

```
\begin{document}
```

```
\maketitle
```

```
\tableofcontents
```

```
\section[Introduction]{A short introduction}
```

This is an sample text. The only purpose of this text is to show how to work with `\LaTeX`. It is not necessary that this text has any meaning. It should only show some properties of the system we are using.

```
\subsection{A note on the data}
```

This is an sample text. The only purpose of this text is to show how to work with `\LaTeX`. It is not necessary that this text has any meaning. It should only show some properties of the system we are using.

```
\end{document}
```

```
%%%%%%%%%%%%%END DOCUMENT%%%%%%%%%
```

Footnotes

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

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

Example 1

```
This is an 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.}
```

Footnotes

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

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

Example 1

```
This is an 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.}
```

Example 2

```
This is an 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.}%
%
```


Exercise

Download the PDF [myDocument-EX1.pdf](#) and replicate it with the commands you have already learnt.

1 Graphics

2 Tables

3 Floating environments

4 Document structure 1

5 Document class

6 Commands

7 Document structure 2

8 Characters & spaces

9 Commenting out

10 Text formatting

11 Text environments

12 Installing packages

Characters & spaces

- The following characters can be used without problems:

a...z A...Z 0...9

. , : ; ? ! ' ' " () [] + - * =

Characters & spaces

- The following characters can be used without problems:

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

- With XeL^AT_EX, you can write **accents** and **umlauts** without further commands. Another option is to use commands for that:

```
\ "A \ "O \ "a \ "o \ 'a \ 'o \ ss{} \ ^u \ ~n
or \ "{A} {\ "O} {\ ss}
```

(4) Ä Ö ä ö á ò ß û ñ or Ã Ö ß

- The following characters have a **special meaning** in T_EX. You must **escape** their function to use them.

\$ & _ { } % \ < > / ~ ^

- The following characters have a **special meaning** in T_EX. You must **escape** their function to use them.

```
# $ & _ { } % \ < > / ~ ^
```

- escaping with **backslash**

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

(5) # \$ & _ { } %

- The following characters have a **special meaning** in T_EX. You must **escape** their function to use them.

```
# $ & _ { } % \ < > / ~ ^
```

- escaping with **backslash**

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

(5) # \$ & _ { } %

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

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

(6) \ ~ ^ > > < < | | |

More on special characters:

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

Space & line break

special treatment of **spaces** and **line breaks** to avoid typographic errors

- **no difference** between a **blank** and a **tab**
- **Consecutive blanks** are treated as only one blank.
- A **blank** 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.

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.

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.

1 Graphics

2 Tables

3 Floating environments

4 Document structure 1

5 Document class

6 Commands

7 Document structure 2

8 Characters & spaces

9 **Commenting out**

10 Text formatting

11 Text environments

12 Installing packages

Commenting out

In L^AT_EX, 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. %This 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.

1 Graphics

2 Tables

3 Floating environments

4 Document structure 1

5 Document class

6 Commands

7 Document structure 2

8 Characters & spaces

9 Commenting out

10 Text formatting

11 Text environments

12 Installing packages

Text formatting

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

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

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

tiny
scsize
fnsiz
small
normal
large
Large
LARG
huge
Huge

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

Exercise

Download the PDF [myDocument-EX2.pdf](#) and replicate it with the commands you have already learnt.

1 Graphics

2 Tables

3 Floating environments

4 Document structure 1

5 Document class

6 Commands

7 Document structure 2

8 Characters & spaces

9 Commenting out

10 Text formatting

11 Text environments

12 Installing packages

Text environments

You will normally need the following environments:

- quotations,
- lists,
- abstracts,
- ...

Quotations

- In L^AT_EX there are two environments for quotations `quote` and `quotation`.
- Both show a different output dependent 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. [\dots]

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.

List environments

L^AT_EX 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 in 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** 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[$\checkmark$] customized
\end{itemize}
```

- standard symbol
- + customized
- + customized
- ✓ customized

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

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

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.

Exercise

Download the PDF [myDocument-EX3.pdf](#) and replicate it with the commands you have already learnt.

1 Graphics

2 Tables

3 Floating environments

4 Document structure 1

5 Document class

6 Commands

7 Document structure 2

8 Characters & spaces

9 Commenting out

10 Text formatting

11 Text environments

12 Installing packages

Installing Packages

- The functions L^AT_EX offers are restricted. Most **extra features** you will need are in **packages** that you can install in your T_EX document.
- Packages must be installed in the **preamble** of your document.

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

Installing Packages

- The functions L^AT_EX offers are restricted. Most **extra features** you will need are in **packages** that you can install in your T_EX document.
- Packages must be installed in the **preamble** of your document.

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

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

This packages can be useful:

- Language package: `babel` `\usepackage[ngerman, english]{babel}`
- Font: `libertine` `\usepackage{libertine}`
- Blind text: `blindtext` `\usepackage{blindtext}`

Sometimes the **order** in that packages have been installed can affect the compilation.

Also, not all packages are **compatible** with each other or with your compiler (XeT_EX vs. PDFL^AT_EX).

Exercise

Download the PDF [myDocument-EX4.pdf](#) and replicate it with the commands you have already learnt. Follow the instructions in the last section and install the packages.

Quellen I

- Grafik: File Extensions – xkcd, A webcomic of romance, sarcasm, math, and language
<https://xkcd.com/1301/>
[Zugriff: 10.04.2017]
- Link: Akzente und Sonderzeichen in L^AT_EX.
https://de.wikibooks.org/wiki/LaTeX/_Akzente_und_Sonderzeichen
[Zugriff: 10.10.2017]
- Link: L^AT_EX/Special Characters.
https://en.wikibooks.org/wiki/LaTeX/Special_Characters
[Zugriff: 02.01.2019]
- Link: CTAN – The Comprehensive T_EX Archive Network .
<http://www.ctan.org/>
[Zugriff: 02.01.2019]
- Software: MiKTeX
<https://miktex.org/>
[Zugriff: 10.04.2017]
- Software: TeXstudio
<https://www.texstudio.org/>
[Zugriff: 10.04.2017]

Literatur I

- Chomsky, N. (1981). *Lectures on Government and Binding*. Dordrecht: Foris Publications.
- Freitag, C. and A. Machicao y Priemer (2015). LaTeX-Einführung für Linguisten. Manuskript.
- Knuth, D. E. (1986). *The T_EXbook*. Boston: Addison-Wesley.
- Kohm, M. and J.-U. Morawski (2014). Die Anleitung: KOMA-Script. Online-Handbuch.
- Kopka, H. (1994). *L^AT_EX: Einführung*, Volume 1. Bonn: Addison-Wesley.
- Machicao y Priemer, A. (2018). Hinweise für Seminararbeiten. Manuskript.
- Machicao y Priemer, A. and R. Kerkhof (2016). LaTeX-Einführung für Linguisten – Slides. Presentation at the 7th linguistischer Methodenworkshop in the Humboldt-Universität zu Berlin – 22–24 February 2016.