HUMBOLDT-UNIVERSITÄT ZU BERLIN

LaTeX for Linguists

LaTeX 3: Graphics, tables & floats

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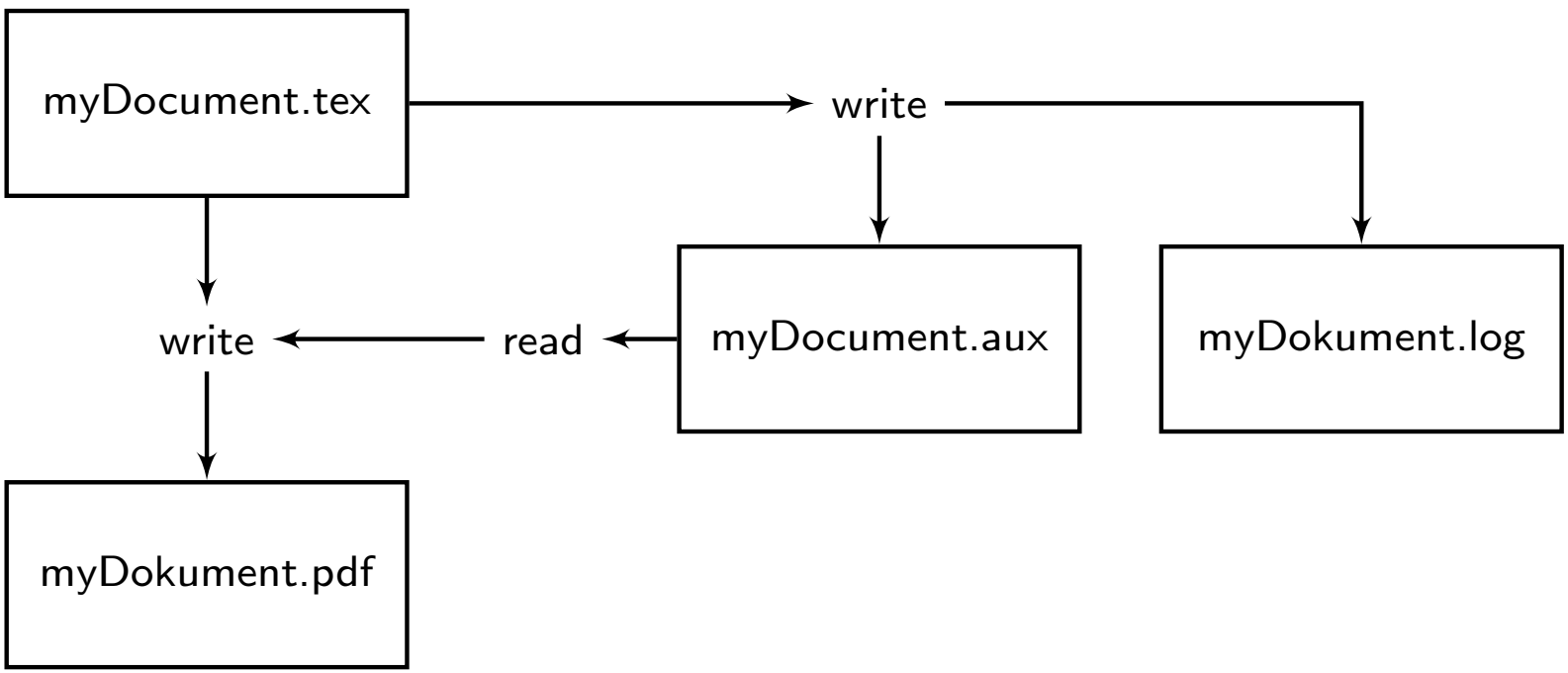
Contents

Including a graphic

- Load 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}
```

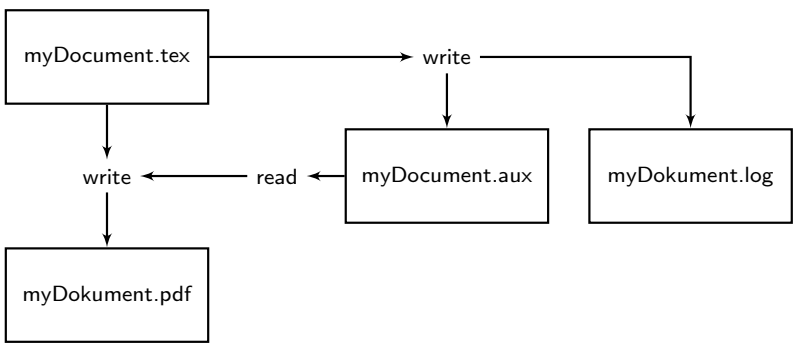



```
\includegraphics{LaTeX-flowchart-1.pdf}
```

Rescaling the graphic

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

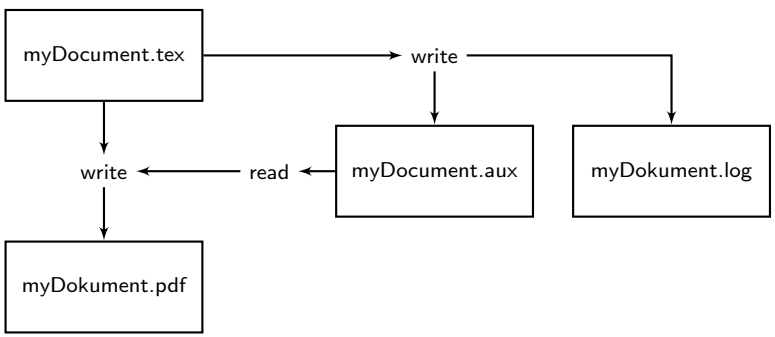
```
\includegraphics[scale=0.5]{LaTeX-flowchart-1.pdf}
```



Rescaling the graphic

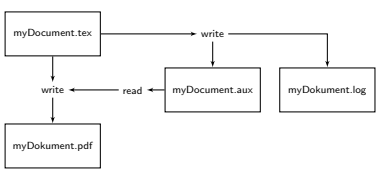
Rescaling with **absolute specification**

```
\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 XeLaTeX and PDFLaTeX:
  - `.pdf` (vector graphics)
  - `.png` (raster graphics)
  - `.jpg` (raster graphics)
  - `.eps` (vector graphics) (in XeLaTeX or with `epstopdf` package in PDFLaTeX)
- You must specify the place where you have saved the graphic **starting from the location of your `.tex`-file**.
  1. Graphic and `.tex`-file are in the same folder:
     `\includegraphics{LaTeX-flowchart-1}`
  2. Graphic is in a folder `graphics`. This folder is in the same folder as your `.tex`-file:
     `\includegraphics{graphics/LaTeX-flowchart-1}`
  3. `.tex`-file is in a folder. This folder and your graphic are in the same folder:
     `\includegraphics{../LaTeX-flowchart-1}`

Exercise

Go to
`https://github.com/langsci/latex4linguists/blob/master/2-1.md`
and follow the instructions of the first **three blocks** in your `.tex` file.

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 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]{lc|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 colums}{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

The package `\usepackage{tabularx}` provides

- an extra **argument** to **specify the width** of the table, and
- a new column specifier `X`; the `X`-columns will be **stretched** until the table is as wide as specified.

The package `\usepackage{booktabs}` provides `\toprule`, `\bottomrule`, `\midrule`, and `\cmidrule{x-y}` which are versions of `\hline` and `\cline{x-y}` with better spacing.

The package `\usepackage{multirow}` gives you the possibility to merge cells vertically.

```
\begin{tabularx}{.4\textwidth}{XXX}
\toprule
0001&002&03\\
\midrule
0A&\multirow{2}{*}{Bii}&000C\\
\cmidrule{1-1}\cmidrule{3-3}
00i& &000iii\\
\bottomrule
\end{tabularx}
```

0001	002	03
0A	Bii	000C
00i		000iii

Floating environments

With floating environments, LaTeX 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}[htb]
\centering

\begin{tabular}[t]{l|l}
Eins & Zwei \\
\hline
Drei & Vier \\
\end{tabular}

\caption{Caption of my table}
\label{fig:TableFloat}
\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}[htb]
\centering

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

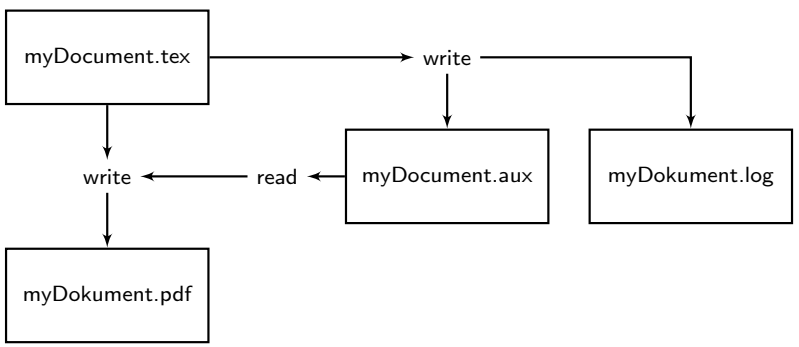


Fig. 1: My first float

Exercise

Go to
`https://github.com/langsci/latex4linguists/blob/master/2-1.md`
and follow the instructions of **all blocks** in your `.tex` file.

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 LaTeX.
  `https://de.wikibooks.org/wiki/LaTeX/_Akzente_und_Sonderzeichen`
  [Zugriff: 10.10.2017]
- Link: LaTeX/Special Characters.
  `https://en.wikibooks.org/wiki/LaTeX/Special_Characters`
  [Zugriff: 02.01.2019]
- Link: CTAN – The Comprehensive TeX 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

Freitag, C. and A. Machicao y Priemer (2015). LaTeX-Einführung für Linguisten. Manuskript.

Knuth, D. E. (1986). *The TEXbook*. Boston: Addison-Wesley.

Kopka, H. (1994). *LATEX: 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.