

TRAMP: *LaTeX* Tutorial

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Overview

- Purpose of tutorial
- What is TeX and LaTeX?
- LaTeX workflow
- LaTeX commands
- LaTeX workflow revisited

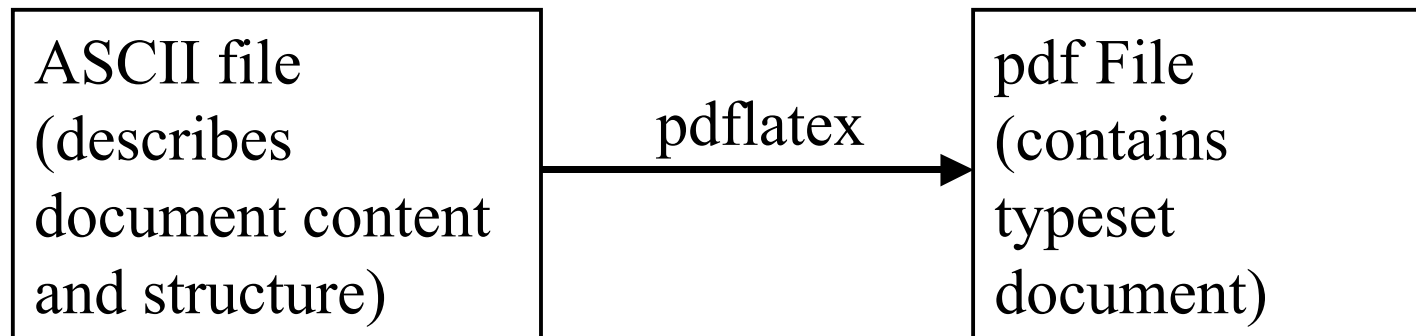
Purpose of this Tutorial

- LaTeX is the main tool for TRAMP documentation
- Tutorial helps you to write the TRAMP documentation
- It is not a TeX reference
- Refer to TeXperts for fancy stuff:
 - your documentation liaison
 - your coach

What is TeX?

- Word processing system, no WYSIWYG
- Processes document structure, applies sophisticated typesetting knowledge
- Focus on scientific/mathematical documents
- Varieties:
 - TeX: Basic system
 - LaTeX: Roughly TeX + useful macros
 - pdfLaTeX: LaTeX with pdf output

pdfLaTeX: Workflow



General Document Structure

```
\documentclass[11pt,titlepage]{scrartcl}
\usepackage{german,a4wide}
%% some more global options

\begin{document}
%% enter document content & structure here
\end{document}
```

Splitting Documents in Multiple Files

```
\documentclass[11pt]{scrartcl}
% reference an arbitrary TeX file without its
% extension
\input{../settings}
...
```

- recursive inputs are allowed
- advantage: facilitates concurrent editing of the same document (→ CVS)

Basic Commands

- in preamble:
 - `\author{...}`
 - `\title{...}`
 - `\date{...}`
- in document body:
 - `\maketitle`
 - `\tableofcontents`
 - `\listoffigures`

Formatting:

- no ASCII art
- new paragraph:
`<empty line>`
- new line:
`\\`
- Emphasis:
`\emph{Some Text.}`
- Footnotes:
`\footnote{Guess what.}`
- Maths:
`$x = 3$`

Structuring the Document

- Just tell LaTeX the role of a heading, it takes care of the rest
- Commands:
 - `\chapter{My Chapter}`
 - `\section{...}`
 - `\subsection{...}`
 - `\subsubsection{...}`
 - `\paragraph{...}`
- Label all sections:
 - `\label{sec:a_useful_name}`

List Environments

- LaTeX facilitates hierarchical creation of list environments
- Syntax

```
\begin{some list type}  
\item First item.  
\item Second item.  
\end{the same list type as above}
```
- Valid list types:
 - `itemize`: bullet list
 - `enumeration`: enumeration
 - `description`: argument given to item in square brackets is printed bold

Images

- Accepted formats (for pdfLaTeX): jpg, pdf
- Commands:

```
\begin{figure}
  \begin{center}
    \includegraphics[width=2.2cm]{../donut}
    % Note: Filename is without extension
    \label{fig:donut}
    \caption{Ein runder Donut mit Loch}
  \end{center}
\end{figure}
```
- Placement is automatic, do not worry about fine tuning

Cross referencing

- Label all relevant parts (sections, figures)
- Always use the following syntax for cross references:
...wie der Bagel (s. Abschnitt `\ref{sec:bagel}`)...
- *Note:*
`pdflatex` sometimes has to be run twice for correct updates of cross references

pdfLaTeX: Workflow Revisited

1. Create ASCII file with your preferred editor
2. Translate (twice) with `pdflatex`
 - Error handling:
line # given by `pdflatex`, quit with `X<enter>`
3. Enjoy your document with Preview or Acrobat Reader
4. Remember:
TeXShop makes your life easier!