LaTeX　　　　　　　　　　　　　　　　GitHub

Another awesome LaTex Report

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January 3007

Contents

1 Chapter Title

This chapter contains examples of LaTeX code in action. To look at and work with the underlying templates, switch to the corresponding position in the .tex file by hitting "Ctrl + LeftClick" here, i.e. inside the Pdf Viewer of Texmaker.

1.1 Section Title

Chapters are divided into sections.

1.1.1 Subsection Title

Sections are further divided into subsections.

Subsubsection Title

For even finer subdivision of text you can add another sub-prefix.

Paragraph Title   A paragraph is the lowest level of text subdivision. Note that the paragraph title is put in line with the bulk text.

1.2 Automatic Numbering

For any new definition, LaTeX creates an automatic numbering. This applies to text structures like chapters, sections and paragraphs, as well as to additional environments like tables, figures and equations. Examples can be found in table 2.1, figure 1.1 and equation ??.

By default, the text numbering is active down to subsection level, as shown in subsection 1.1.1 above.

By the way: Did you notice how the mouse pointer changes to a hand symbol when hovering over the subsection number above? Whenever the hand symbol is visible, you are pointing onto a dynamic link, which can be used to jump to the corresponding label.

1.2.1 Extend Numbering to Lower Levels

If additional sub-levels need to be numbered, include one of the two following code snippets into the header file "packages.tex".

To number down to subsubsections but leave paragraphs without number:

```
\setcounter{secnumdepth}{3}
\setcounter{tocdepth}{3}          % new numbering in contents
```

To number paragraphs as well:

```
\setcounter{secnumdepth}{4}
\setcounter{tocdepth}{4}          % new numbering in contents
```

1.3 Label for a Reference

To refer to a specific position inside a LaTeX report, declare a label. This label is only visible in the LaTeX editor and not printed into the final pdf. To find the hidden label in this section, hit "Alt+LeftClick" right here inside the "Pdf Viewer".

Labels can be placed in special environments like tables, figures and equations as well.

1.4 Reference to a Label

As seen in section 1.3, a reference needs a label to work. Inside the pdf generated by LaTeX, you can click on any reference to jump to the corresponding label position. This possibility is visualized by the mouse pointer changing to a hand symbol with one finger pointing upward.

It's also possible to customize links, e.g. to jump to the table of contents.

1.4.1 Jump Back to Label Position

After following a link inside the output pdf, you can press "Alt+LeftArrow" to jump back to the original position inside the pdf. For this feature to work, the pdf has to be opened outside the Texmaker program, e.g. with the `https://get.adobe.com/reader/`.
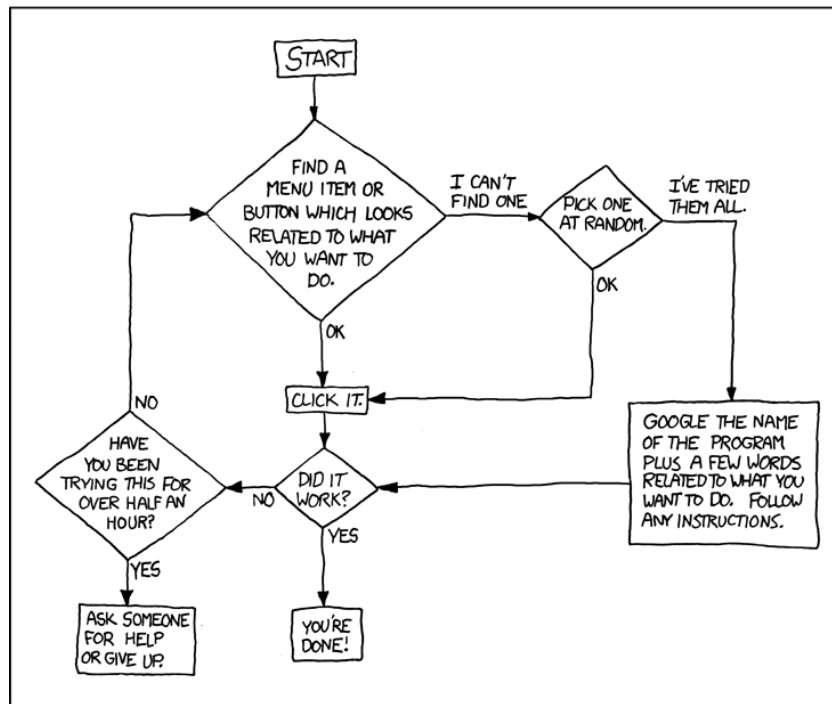
1.5 Commenting

To write a comment in your .tex file, start a new line with "%". Commented code parts are ignored by the compiler.

1.6 Include .tex Files

1.7 Figure

DEAR VARIOUS PARENTS, GRANDPARENTS, CO-WORKERS, AND OTHER "NOT COMPUTER PEOPLE."

WE DON'T MAGICALLY KNOW HOW TO DO EVERYTHING IN EVERY PROGRAM. WHEN WE HELP YOU, WE'RE USUALLY JUST DOING THIS:

PLEASE PRINT THIS FLOWCHART OUT AND TAPE IT NEAR YOUR SCREEN. CONGRATULATIONS; YOU'RE NOW THE LOCAL COMPUTER EXPERT!

Figure 1.1: On how to become a local computer expert.
Don't forget "Ctrl+LeftClick" here :)

1.8 Citation

To cite bibliography sources in LaTeX, I recommend using JabRef. JabRef is an open source graphical application for managing bibliographical data.

Besides standard citations like books [1] or articles [2], JabRef can also be used to define custom entry types like webpages for example [3].

1.9 Nomenclature Entries

Technical terms and abbreviations used inside a report can be gathered using a nomenclature (see section 2.3.1).

Define new nomenclature entry, e.g. a specific abbreviation, inside the separate file nomenclature.tex

ref ??. This definition can then be linked to usages of the technical term inside the report.

1.10 Switch to German Output Language

Switch language-specific output to German by calling:

usepackage[ngerman]{babel}

as the first package in the header file "packages.tex". As an example, "Contents" then becomes "Inhaltsverzeichnis" and "Bibliography" becomes "Quellenverzeichnis".

1.11 Filler Text

Here's an example of filler text, e.g. to test the appearance of a new font setting.

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget, consectetuer id, vulputate a, magna. Donec vehicula augue eu neque. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra metus rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor gravida placerat. Integer sapien est, iaculis in, pretium quis, viverra ac, nunc. Praesent eget sem vel leo ultrices bibendum. Aenean faucibus. Morbi dolor nulla, malesuada eu, pulvinar at, mollis ac, nulla. Curabitur auctor semper nulla. Donec varius orci eget risus. Duis nibh mi, congue eu, accumsan eleifend, sagittis quis, diam. Duis eget orci sit amet orci dignissim rutrum.

Suppress Numbering

To suppress numbering of a particular LaTeX object add "*" between object call and curly brackets. As an example, the current section was created by:

$\backslash$**section**$*\{$Suppress Numbering$\}$

This can be useful to separate certain parts like the nomenclature or appendix from the main text. Suppressing the numbering also prevents enumeration in the table of contents. To still create an entry in the table of contents, call the following code just after creating the suppressed section:

$\backslash$**addcontentsline**$\{$toc$\}\{$section$\}\{$Suppress Numbering$\}$

2 Another Chapter Title

For a better overview and structured writing, I recommend you place each chapter into a separate .tex file. As shown in section 1.6, further subdivision of the .tex code is possible if necessary.

2.1   Table, Texmaker Keyboard Shortcuts

For more efficient work with Texmaker, the keyboard shortcuts in table 2.1 come in handy.

keyboard shortcut	action triggered
startup procedure	
Ctrl + Shift + F8	open files and master from last session
F1	compile
file navigation	
Ctrl + F, M	find, find next
Alt + Page Up/Down	switch between open .tex-files
Ctrl + LeftClick in Pdf Viewer	jump to corresponding point in editor
commenting	
Ctrl + T	comment selected code
Ctrl + U	uncomment selected code

Table 2.1: Add caption

The above table is included as a separate .tex file, as described in 1.6.

2.2   Packages

2.3   Error Messages

This section contains common error messages when compiling .tex into .pdf. To display possible error messages, activate the window "Messages/Log" within the

Texmaker editor as shown in figure **??**.

When encountering a new error message, it makes sense to compile once more. Some errors are caused by incompatibilities between intermediate compilation files and newly written .tex-code. In such a case, recompilation can eliminate those error messages.

2.3.1   overfull vbox

"overfull vbox" means you have too much stuff on a page for LaTeX to arrange nicely. Consider either reducing the size of figures or removing the [H] enforcing the figure to be placed "Here".

Nomenclature

Abbreviations

Greek Symbols

Bibliography

[1] E. Kuffel, W.S. Zaengl, J. Kuffel. *High Voltage Engineering Fundamentals*. Butterworth-Heinemann, 2000.

[2] G. M. Whitesides. Whitesides' Group: Writing a Paper. *Advanced Materials*, 16:1375–1377, 2004. URL: `http://onlinelibrary.wiley.com/doi/10.1002/adma.200400767/pdf` `\hfill` [zuletzt aufgerufen 20150123].

[3] Online Community. Github.com [online]. URL: `https://github.com/` [zuletzt aufgerufen 20151229].