The wegcLaTeX documentation framework: a guide for beginners

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1 Introduction

1.1 Scope

The intention of this document[1] is to give new users of the wegcLaTeX documentation framework a quick introduction on how to use it in the most efficient way.

Included in this manual are a series of examples on how to create the document layout and how to use the capabilities of the automatically included LaTeX packages. No special treatment for typesetting formulas, diagrams or tables is given, as literature on these topics is readily available. To a minor extent, it also covers advanced topics mainly relevant to people who want to use wegcLaTeX within the scope of documentation tasks.

It must be emphasized that it is far beyond the scope of this user guide to address questions about standard LaTeX concepts. Using LaTeX in a reasonably correct manner is *not* a trivial task. In fact, it is easy to use it quite wrongly. It is expected that the reader has a basic understanding on how to create simple LaTeX documents. So if you are new to LaTeX and/or have never worked in a LaTeX documentation task, please refer to introductory literature on LaTeX.

At the minimum, you should read 'The Not So Short Introduction to LaTeX 2_ε' (CTAN:/tex-archive/info/lshort/english/lshort.pdf) which provides a very good survey of contemporary LaTeX for both beginners and advanced users. Nevertheless, it is recommended to study the following documents in some detail:

- 'LaTeX 2_ε for authors' [2]
- 'An essential guide to LaTeX 2_ε usage' [3]
- 'KOMA-Script' [4]
- 'Math mode' [5]
- 'Using Imported Graphics in LaTeX and pdfLaTeX' [6]

Finally, download and print out the 'LaTeX 2_ε Cheat Sheet' (http://www.stdout.org/~winston/latex/latexsheet.pdf) since this may serve as a handy means for everyday work with LaTeX.

wegcLaTeX has been developed and is maintained by Michael Pock. In case of any questions about wegcLaTeX, please write an email to michael.pock@uni-graz.at.

[1] The document in hand is applicable to wegcLaTeX Version 0.9.5–r185.
[2] CTAN:/tex-archive/macros/latex/doc/usrguide.pdf
[3] CTAN:/tex-archive/info/l2tabu/english/l2tabuen.pdf
[4] CTAN:/tex-archive/macros/latex/contrib/koma-script/doc/scrguide.pdf
[5] ftp://ftp.tex.ac.uk/tex-archive/info/math/voss/mathmode/Mathmode.pdf
[6] CTAN:/tex-archive/info/epslatex/english/epslatex.pdf

1.2 Capabilities of wegcLaTeX

So, what is the wegcLaTeX documentation framework? Stated in the most simple way, wegcLaTeX provides an environment for generating documents with a consistent look and feel. The consistency of the the documents is ensured by providing mechanisms for consistent usage of common items like names, addresses, email addresses, web addresses, telephone numbers, abbreviations, acronyms, terms and last but not least, a common and consistent document style for singledoc and multidoc documents.

singledoc documents have a traditional LaTeX styling, whereas multidoc documents are intended for publications that comprise two or more articles, reports or books, which shall all share a common and consistent layout of the document front matter, e.g. title page, distribution list and document revision history as well as document headings. For a few sample pages of a multidoc document, please see Figure 1, Figure 2, Figure 3, Figure 4 and Figure 5 in Subsection 6.2, Page 40.

The documents written with wegcLaTeX can be, for example, the documentation tree associated with a software package, the manual and handbook set for operating and maintenance procedures of any type of machinery, or single documents like MSc and PhD theses, scientific or technical reports, or papers.

wegcLaTeX provides the means to ensure the consistent layout of the documents by providing templates for the layout of front matter pages, title page, distribution list, document revision history, bibliography, as well as of the lists of figures and tables.

Due to the fact that wegcLaTeX also automatically imports a series of handy LaTeX packages for the creation and inclusion of external pictures, diagrams, verbatim text and pretty-printed source code listings, the user does not need to load any extra packages, but can simply start writing his or her documentation, taking the provided example documents as a starting point.

As its name implies, wegcLaTeX is written in the LaTeX document markup language which is widely used by scientists and other professionals in both the academic and commercial world. Distributed under the terms of the LPPL, LaTeX is free software.[7] Owing to its platform independence, it can moreover be used in a similar way on Linux, Mac OS X, and Windows machines.

Contemporary TeX/LaTeX distributions such as TeX Live and MiKTeX ship with a considerable variety of modules whose capabilities go far beyond the potentials originally foreseen by the venerable TeX typesetting system and the LaTeX kernel built on it. In fact, assuming you are an experienced and sufficiently persistent LaTeX user, you should nowadays be able to cope with most tasks that might arise while preparing scientific and/or technical documents. An incomplete—and, of course, subjective—list of modules providing the necessary tools for doing so includes:

KOMA-Script bundle → modern and highly configurable replacement for the standard LaTeX document classes, sophisticated interface for configuring

[7] This statement has sometimes been questioned (cf. http://en.wikipedia.org/wiki/LPPL).

the document layout including page style design[8]

babel package → multilingual support[9]

url package → formatting URLs, email addresses, filenames, etc.[10]

siunitx package → formatting units of physical quantities[11]

amsmath package → high-quality typesetting of mathematical formulae[12]

array package → replacement for the standard LaTeX tables and arrays[13]

booktabs package → assistance in producing publication-quality tables[14]

longtable package → creating multipage tables[15]

xcolor package → colour support[16]

graphicx package → embedding external graphics given in various formats[17]

pgf package → creating graphics[18]

mhchem package → chemical formulae[19]

listings package → pretty-printing of source code[20]

glossaries package → maintaining glossaries, lists of acronyms, indices, etc. with assistance of the `makeindex` program[21]

biblatex package → maintaining bibliographies based on BibTeX bibliographic database files with assistance of the `bibtex8` program[22]

hyperref package → support for hyperlinks, PDF bookmarks, PDF document information, etc.[23]

[8] CTAN:/tex-archive/macros/latex/contrib/koma-script/doc/scrguide.pdf
[9] CTAN:/tex-archive/macros/latex/required/babel/base/babel.pdf
[10] CTAN:/tex-archive/macros/latex/contrib/url/url.pdf
[11] CTAN:/tex-archive/macros/latex/contrib/siunitx/siunitx.pdf
[12] CTAN:/tex-archive/macros/latex/required/amslatex/math/amsldoc.pdf
[13] CTAN:/tex-archive/macros/latex/required/tools/array.pdf
[14] CTAN:/tex-archive/macros/latex/contrib/booktabs/booktabs.pdf
[15] CTAN:/tex-archive/macros/latex/required/tools/longtable.pdf
[16] CTAN:/tex-archive/macros/latex/contrib/xcolor/xcolor.pdf
[17] CTAN:/tex-archive/macros/latex/required/graphics/grfguide.pdf
[18] CTAN:/tex-archive/graphics/pgf/base/doc/generic/pgf/pgfmanual.pdf
[19] CTAN:/tex-archive/macros/latex/contrib/mhchem/mhchem.pdf
[20] CTAN:/tex-archive/macros/latex/contrib/listings/listings.pdf
[21] CTAN:/tex-archive/macros/latex/contrib/glossaries/glossaries-user.pdf
[22] CTAN:/tex-archive/macros/latex/exptl/biblatex/doc/biblatex.pdf
[23] CTAN:/tex-archive/macros/latex/contrib/hyperref/doc/manual.pdf

pdfpages package → support for inclusion of excerpts from PDF documents, etc.[24]

Since 2008, wegcLaTeX, a general purpose document preparation framework, selects, configures, patches, and extends an adequate subset of LaTeX modules available from CTAN according to the needs of a typical user with scientific and/or technical background. Not surprisingly, the basis of wegcLaTeX is formed by just those modules outlined in the preceding list.[25] To sum up once more, it can be said that wegcLaTeX represents a highlevel interface to LaTeX which should enable its user to write comprehensible, consistent, reader-friendly, flexible, and easily maintainable scientific and/or technical documents without being forced to spend much time on looking into more than the (already comprehensive) fundamentals of the LaTeX document markup language.

[24] CTAN:/tex-archive/macros/latex/contrib/pdfpages/pdfpages.pdf

[25] Links to the documentation of further LaTeX packages used in wegcLaTeX are provided with the corresponding `\RequirePackage{}` statements in the `wltools.sty` and `wlsetup.sty` style files of the wegcLaTeX framework

2 Installation

2.1 Installation instructions

wegcLaTeX is provided as tgz-archive, i.e. `wegclatex_0.9.5-texlive2009-texmf.tar.gz`, and its repository is hosted at `svn+ssh://wegc203117.uni-graz.at/var/lib/svn/wegc_latex/`.

The prerequisite for using wegcLaTeX is a properly installed full TeX Live 2009 distribution on a Linux workstation, i.e. the following packages:

for SuSE 12.2:
`texlive`, `texlive-latex`, `texlive-bin-latex`,
`texlive-tools`, `texlive-bin-tools`, `texlive-doc`, and `texlive-fonts-extra`

for Debian 6.0.6:
`texlive`, and `texlive-full`

Sometimes, a LaTeX module is required in a newer version than that included in TeX Live 2009. Furthermore, some crucial modules such as the glossaries and biblatex packages are not part of TeX Live 2009. In all these cases, wegcLaTeX provides the appropriate modules by its own, so you need not worry about such questions. It should be noted at this place that wegcLaTeX has not been tested with MiKTeX yet. Experience shows, however, that, if any, only minor compatibility issues are to be expected.

For installing wegcLaTeX it is only necessary to copy the wegcLaTeX `texmf` tree to the `<InstallDir>/texmf` directory, and to set up to three environment variables. `<InstallDir>` denotes the directory in which `./texmf/` itself resides, e.g. if the user's home directory is used, to `/home/<userId>/texmf/`.

As a first step, uncompress the file `wegclatex_0.9.5-texlive2009-texmf.tar.gz` in your home directory:

```
cd ~
tar xzf wegclatex_0.9.5-texlive2009-texmf.tar.gz
```

This will create the directory `~/texmf/` in the user's home directory.

Assuming a workstation using the bash command language interpreter, as a second and final step, setting the three environment variables can be done by adding the following three lines to the `.bashrc` login script:

```
export TEXMFHOME=<InstallDir>/texmf
export TEXINPUTS=.:./\{data,figs,tex\}//:../common//:
export BIBINPUTS=.:../common//:
```

- The `TEXMFHOME` variable defines the wegcLaTeX installation directory. In this example, it is set to `TEXMFHOME=<InstallDir>/texmf`. This is only necessary if wegcLaTeX is installed to a directory other than the user's home (`/home/<userId>/`) or the system's pre-defined path (`/usr/local/share/`). The LaTeX interpreter searches these two

paths automatically and will use wegcLaTeX, if found there, also without setting the `TEXMFHOME` variable.

- The `TEXINPUTS` variable defines the locations where wegcLaTeX searches for required packages, data, figures, or LaTeX source code files. This is convenient, since any file in the `./data/`, `./figs/`, `./tex/` or `./common/` subdirectories can then be referred to by its basename instead of its (absolute or relative) pathname.
- The `BIBINPUTS` variable defines the locations where wegcLaTeX searches for `*.bib` files.

Attention: You should not forget to replace the example directory names with the real directory names of your installation. Moreover, you must 'source' your `~/.bashrc` (i.e. by entering `source ~/.bashrc` on the command line) in order for the modified shell environment to come into effect. If you already maintain a personal `texmf` tree in a non-standard location, say `~/pubs/texmf`, ensure that the above two commands are interpreted *after* the commands setting up the shell environment for your personal `texmf` tree. Otherwise, there is some probability that wegcLaTeX will not get what it actually expects ...

2.2 wegcLaTeX file structure

All files belonging to the wegcLaTeX framework are stored below the `<InstallDir>/texmf/` directory. `<InstallDir>` denotes the directory in which the `./texmf/` itself resides. The file structure follows the concept of a so-called `texmf` tree. At first glance, you might deem this structure unnecessarily complicated. As a matter of fact, it is, however, most adequate, given that the file search algorithms included in TeX/LaTeX distributions such as TeX Live and MiKTeX are definitely designed and optimized for `texmf` trees.

The subsequent list describes the subdirectories of the wegcLaTeX file structure:

`./texmf/bibtex/`
: This directory hosts biblatex-related files (e.g., style files).

`./texmf/doc/`
: This directory contains the wegcLaTeX templates for singledoc and multidoc documents in the `./texmf/doc/latex/wegc-latex/examples/singledoc/`, `./texmf/doc/latex/wegc-latex/examples/multidoc-article/`, `./texmf/doc/latex/wegc-latex/examples/multidoc-report/`, and `./texmf/doc/latex/wegc-latex/examples/multidoc-book/` directories, as well as the document command and layout template files in the `./texmf/doc/latex/wegc-latex/examples/common/` directory.

`./texmf/doc/latex/wegc-latex/examples/singledoc/`
: This directory contains the singledoc article, report and book document templates, i.e., `master-wlarticle.tex`, `master-wlreport.tex`, and `master-wlbook.tex`.

`./texmf/doc/latex/wegc-latex/examples/multidoc-article/`,
`./texmf/doc/latex/wegc-latex/examples/multidoc-report/`, and
`./texmf/doc/latex/wegc-latex/examples/multidoc-book/`
These directories contain multidoc article, report and book document templates, i.e.,
`./multidoc-article/doc-article.tex`,
`./multidoc-book/doc-book.tex`, and
`./multidoc-report/doc-report.tex`.
Each of these three subdirectories also contain a `./data/`, `./figs/` and `./tex/` subdirectory for storing ASCII, image and LaTeX files used.

`./texmf/doc/latex/wegc-latex/examples/common/`
This directory contains the singledoc and multidoc document command and layout template files
`./common/commands.sty`,
`./common/docstyle.sty`, and
`./common/project.sty`.
The acronyms, terms, and address definition files `acronyms.sty`, `addresses.sty`, and `terms.sty` are also to be put into this directory (example only versions of these files are provided in the compressed archive file `./texmf/doc/latex/wegc-latex/WLG/acronymsAddressesTerms_ExampleDoNotUse.tar.gz`, whereas current and up to date versions of these files should be obtained from the separate repository hosted at `https://wegc203117.uni-graz.at/projects/latex_dbs/browser/arsclisys`.[26]
The subdirectory
`./common/figs/`
contains the images used with multidoc document cover pages and document headers.

`./texmf/dvipdfmx/`
This directory hosts configuration files for the DVIPDFMx package, used for translating the DVI format to PDF.

`./texmf/tex/`
This directory hosts, among others, the automatically included LaTeX modules mentioned previously and the wegcLaTeX kernel.

`./texmf/tex/<TBD>/documentVersionInfo.tex`
This file contains the revision definitions used by wegcLaTeX (intended to be updated by a `./configure` or `./makeDocument` script). The revision definition consists of three entities, i.e.
`documentRevision`, `documentMajorVersion`, and `documentMinorVersion`:

```
\newcommand*{\documentMajorVersion}{5}
\newcommand*{\documentMinorVersion}{6}
\newcommand*{\documentRevision}{3072}
```

[26] The common acronyms, terms, and address definitions are easily accessed by adding its directory path to the `TEXINPUTS` environment variable.

For easier offline reading, the manuals for the LaTeX packages mentioned in Subsection 1.1, Page 4, Subsection 1.2, Page 5 and Subsection 4.1, Page 17, together with this manual (`WLG.pdf`), are provided in the directory `./LaTeX_PDFs/` as PDF files (at the same directory level as the wegcLaTeX `texmf` tree).

2.3 Generating this document

Assuming the wegcLaTeX framework is already properly installed (see Subsection 2.1), for generating this document, proceed as follows:

1. create a working directory, e.g. `/home/<user>/wlgDocGen/`
2. checkout the latest version of wegcLaTeX to `/home/<user>/wlgDocGen/`
3. change to the directory containing the master file `WLG.tex`, i.e.
   `cd /home/<user>/wlgDocGen/trunk/texmf/doc/latex/wegc-latex/WLG`
4. execute the script `makeWLG`, i.e.
   `./makeWLG`
   for generating the PDF file `WLG.pdf`

3 Document generation

3.1 Commands for document generation

Assuming that a complete document has been properly written, all the required subdocument LaTeX source code files, data and figure files are present in the appropriate subdirectories (as described in Subsection 2.2 on Page 9), and the master LaTeX file is named `masterDoc.tex`, then there are 4 steps necessary for generating the print-ready PDF document:

1. a) `pdflatex masterDoc`
   Generate the output document in PDF format by calling pdfTeX in PDF mode. In this case, `\documentclass` should include the `"pdftex"` output driver option. This is the recommended (and default) way.

   b) `latex masterDoc && dvipdfmx masterDoc`
   Alternatively, generate the output document in PDF format by calling either TeX or pdfTeX in DVI mode. In this case, `\documentclass` should include the `"dvipdfmx"` output driver option. If pdfTeX is not installed this command replaces the preceding command. If pdfTeX is installed it is an alternative to the preceding command, allowing to generate the output document in a way closer to how it would be generated by means of the traditional TeX engine. Note that this may imply a significantly smaller PDF file size.

2. `makeglossaries masterDoc`
   Generate LaTeX code for formatting the glossary sections. Which index processor is internally called by the makeglossaries program depends on the value of the `"glossaries/processor"` `\documentclass` option. It can be `"makeindex"` or `"xindy"`. Default is `"makeindex"`.

3. a) `bibtex8 -c <csfile> -W masterDoc`
   Generate LaTeX code for formatting the bibliography section by means of the `bibtex8` program. In this case, `\documentclass` should set the `"biblatex/backend"` option to `"bibtex8"` (this is the default). `<csfile>` denotes a BibTeX character set and sort definition file such as `ascii.csf`, `latin1.csf` or `latin9.csf`. This should match the encoding of the bibliographic database. Usually you do not need to explicitly set the `<csfile>`, leaving you with the recommended way of formatting the bibliography:
   `bibtex8 -W masterDoc`.

   b) `bibtex masterDoc`
   Generate LaTeX code for formatting the bibliography section by means of the bibtex program. In this case, `\documentclass` should set the `"biblatex/backend"` option to `"bibtex"`.

4. Repeat Item 1a or Item 1b two more times to get all references and hyperlinks such as `\autoref{}`, `\ac{}` and/or `\textcite{}` etc. properly updated.

An example script, which uses as first argument the basename of the LaTeX master file, is presented in Listing 1. Please note that during your daily working routine, it is not necessary to perform all these steps; in most cases, a simple run of Item 1a will update your PDF most efficiently.

Attention: The more traditional `tex`→`dvi`→`pdf` document generation approach listed under Item 1b does not work well at the moment because a few LaTeX modules loaded by wegcLaTeX insufficiently support the underlying dvipdfm driver. Furthermore note that the glossaries package does not give any indication whether `makeindex` must be called at a specific stage of document generation to update the 'Glossary' and 'Acronyms' sections as outlined under Item 2. Unfortunately, this circumstance makes the implementation of an *intelligent* build system a rather challenging task. Assuming the 'Bibliography' section is very large and/or several secondary reference lists exist, calling `bibtex8` is likely to result in an error despite specifying the high-capacity `-W` switch suggested under Item 3a. If this happens, resort to the biblatex package documentation (see Footnote 22) which describes in detail how to maximize the capacity of the `bibtex8` program at run time.

Listing 1: Example script for document generation

```
#! /bin/bash
export TEXMFHOME=/home/<userId>/texmf
export TEXINPUTS=.:../\{data,figs,tex\}//:../common//:
export BIBINPUTS=.:../common//:

masterDoc=${1}
latex=pdflatex
makeglossaries=makeglossaries
bibtex='bibtex8 -W'
rm='/bin/rm -f'
intermediateFiles='*.acn *.acr *.alg *.aux *.bbl *.blg *-blx.bib *.dvi *.glo *.glg \
     *.gls *.ist *.lof *.log *.lol *.lot *.nlg *.noa *.not *.run.xml *.toc'
${rm} ${intermediateFiles} &&
${latex} ${masterDoc} &&
${makeglossaries} ${masterDoc} &&
${bibtex} ${masterDoc} &&
${latex} ${masterDoc} &&
${makeglossaries} ${masterDoc} &&
${latex} ${masterDoc} &&
${latex} ${masterDoc} &&
${rm} ${intermediateFiles}
```

3.2 Global Options for document generation

In LaTeX, global options are specified in the optional argument of the `\documentclass` command which selects the document class to be used for a document, usually found at the very beginning of a LaTeX master file. Global options are not only processed by the

document class module, but are also taken into account by subsequently loaded packages. Thus, they provide the primary means for a LaTeX user to change the overall appearance and other global properties of a document.

An example `\documentclass` command setup for use with wegcLaTeX is given in Listing 2, Page 15 and a short explanation of the `\documentclass` command values is given in Table 1, Page 16.

Listing 2: Example `\documentclass` command settings in the masterfile

```
\documentclass[
  %% output driver ("pdftex" when calling pdfLaTeX or "dvipdfmx" when calling LaTeX):
  pdftex,
  %% final or draft document version ("final" or "draft"):
  draft,
  %% web or print document version ("web" or "print"):
  web,
  %% main document language ("english", "USenglish", "UKenglish", "ngerman" or "naustrian"):
  UKenglish,
  %% paper size (ISO 216 paper size, North American paper size, "portrait" or "landscape"):
  paper=a4,
  %% font size (in pt):
  fontsize=11pt,
  %% DIV factor ("default", "calc" or integer >= 4):
  DIV=11,
  %% binding correction (in mm):
  BCOR=0mm,
  %% way of including glossary section headings in the table of contents ("nottotoc", "totoc" or "totocnumberline"):
  glossaries=totoc,
  %% acronym style ("default", "dua", "footnote", "smallcaps", "smaller", "description", "description+dua" or
  %% "description+footnote"):
  glossaries/acronymstyle=default,
  %% index processor used along with the glossaries package ("default", "makeindex" or "xindy"):
  glossaries/processor=makeindex,
  %% bibliography/citation style ("default" or a style known to the biblatex package):
  biblatex/style=default,
  %% bibliographic database backend used along with the biblatex package ("default", "bibtex" or "bibtex8"):
  biblatex/backend=bibtex8,
  %% encoding of the bibliographic database ("default", "auto", "x-ascii", "x-iso-8859-15" or another
  %% single-byte encoding known to the inputenx package):
  biblatex/bibencoding=x-ascii
]{wlarticle}[2011/07/26]
```

Table 1: Available `\documentclass` command settings in the masterfile

Command item	possible values	example setting
document class	wlarticle | wlbook | wlreport	`wlreport`
output driver	pdftex | dvipdfmx	`pdftex`
document version	final | draft	`final`
document type	web | print	`print`
document language	english | UKenglish | USenglish | ngerman | naustrian	`UKenglish`
paper size	a4 | a3	`paper=a4`
font size	11pt	`fontsize=11pt`
DIV factor	default | calc | integer >= 4	`DIV=11`
binding correction	binding correction (in mm)	`BCOR=5mm`

3.3 Merging subdocuments

For merging and joining partial documents or subdocuments to a single PDF document, the multivalent tool (http://multivalent.sourceforge.net/) is highly recommended. This Java based tool requires an up to date Sun-Java installation and can be downloaded[27] from the multivalent download page at http://sourceforge.net/projects/multivalent/files/multivalent/Release20091027/Multivalent20091027.jar/.
For joining two PDF files, perform the following steps:

```
cp Multivalent20060102.jar /usr/local/share/java/
export CLASSPATH=/usr/local/share/java/*
java tool.pdf.Merge file1.pdf file2.pdf
```

Note that for simple applications such as adding one or several cover pages produced by an external tool in PDF format, the pdfpages package included in wegcLaTeX (Subsection 1.2) will be a more appropriate approach. Please refer to the pdfpages manual for further details.

[27] The file `Multivalent20091027.jar` and an older version of this tool (`Multivalent20060102.jar`) are stored in the directory `./LaTeX_PDFs/Multivalent/` for ease of access only.

4 Commands and environments

4.1 Extensions to the LaTeX kernel

`\hyphen`

Expands to a hyphen with less restrictive hyphenation properties as compared to the primitive '`-`' character. Using `\hyphen` within compound words lowers the risk of getting overfull horizontal boxes.
`\hyphen` can also be accessed via the Unicode character at code point U+2010.

`\nbhyphen`

Expands to a non-breaking `\hyphen`.
`\nbhyphen` can also be accessed via the Unicode character at code point U+2011.

`\textendash`

Expands to an en-dash, slightly longer than a hyphen. This command is an alternative form to using '`--`' in the LaTeX source code, which expands to the same en-dash, but with slightly different hyphenation properties. The en-dash is used for ranges, e.g. "3–7", and to separate name pairs, for example, the text

```
``Euler\textendash{}Lagrange, Stefan\textendash{}Sussmann''
```

gives the output:
"Euler–Lagrange, Stefan–Sussmann".
`\textendash` can also be accessed via the Unicode character at code point U+2013. For truly compound names (named after one person), such as "Lennard-Jones", use the simple hyphen. The en-dash is also used in German sentences to mark "parenthetical comments" (see `\textemdash` for the English style to do this), for example:

```
``Das Wichtigste \textendash{} wenn du es wirklich wissen m\"ochtest
\textendash{} ist, Bindestriche richtig einzusetzen.''
```

gives the output:
"Das Wichtigste – wenn du es wirklich wissen möchtest – ist, Bindestriche richtig einzusetzen."
Note that in German a space character is used to separate the en-dash from the surrounding words.

`\textemdash`

Expands to an em-dash, slightly longer than a en-dash. This command is an alternative form to using '`---`' in the LaTeX source code, which expands to the same em-dash, but with slightly different hyphenation properties. Use this type of dash for "parenthetical comments". For example, the text

```
``The main thing\textemdash{}if you must know\textemdash{}is to use
hyphens properly.''
```

gives the output:
"The main thing—if you must know—is to use hyphens properly."

\textemdash can also be accessed via the Unicode character at code point U+2014. For details about how to use the various types of dashes, please refer to e.g. https://en.wikipedia.org/wiki/Dash.

\textminus
Use this to indicate negative numbers. For example, the text

‘‘\textminus{}128’’

gives the following output:
“ −128”
\textminus can also be accessed via the Unicode character at code point U+2212.

\textfractionsolidus
Yields a slash with alternative (perhaps more attractive) typeface. The hyphenation properties of \textfractionsolidus are less restrictive than those shown by the standard LaTeX \slash command and, thus, help avoid overfull horizontal boxes. Using the primitive ‘/’ character in ordinary textual contexts is in general deprecated. \textfractionsolidus can also be accessed via the Unicode character at code point U+2044.

\backtextfractionsolidus
Expands to a backslash with a typeface similar to \textfractionsolidus.

\hardbreak
Indicates that a line break at the immediately following space is undesirable, but still acceptable.

\enforcenewline
Causes a line break, even at positions where this is normally forbidden (e.g. at the start of a paragraph).

\p<punctuationMark>
Enforces the correct spacing after <punctuationMark>. \p supersedes the standard LaTeX \@ command in that it does not destroy kerning.

\dokerning{<group_1>}{<token>}{<group_2>}
Restores the kerning between <group_1> and <group_2> lost because of using <token>.

\SetUpHyphenation[<language>]{<hyphenationRules>}
Lets you specify additional <hyphenationRules> for <language> or, if <language> is omitted, for the primary language of the document. The <hyphenationRules> are specified according to the scheme prescribed by the standard LaTeX \hyphenation command. Note that \SetUpHyphenation may only be used in the document preamble.

`\fullautoref{<referenceLabel>}`
: This is an interim replacement for the `\vref{}` command from the varioref package[28] (which currently produces some undesired side effects). In addition to the output of the recommended `\autoref` command, the page number of the reference target is printed with `\fullautoref`.

`\software{<short|long>}{<swName>}{<swMajor>}{<swMinor>}{<swMicro>}{swRev}`
: Expands to a software version string, e.g.
`\software{long}{rOPS}{7}{7}{1}{2111}` → rOPS Version 7.7.1–r2111, or
`\software{short}{rOPS}{7}{8}{}{}` → rOPS 7.8 .

`\placeholder{<dummyArgument>}`
: Expands to a string indicating a dummy argument, e.g.
`\placeholder{telephoneNumber}` → <telephoneNumber> .

`\plh{<dummyArgument>}`
: A shortcut to the previous command `\placeholder{}` is available as `\plh{}`, e.g.
`\plh{telephoneNumber}` → <telephoneNumber> .

`\cmdline{<consoleCommandlineString>}`
: Expands to a verbatim, fixed font printed <consoleCommandlineString> as it is commonly encountered at a console commandline, e.g.
`\cmdline{tar -xzf data_file.tar.gz}` → `tar -xzf data_file.tar.gz` .

`\path{<fileOrDirecoryPathName>}`
: Expands to a verbatim, fixed font printed `<fileOrDirecoryPathName>`, similar to `\cmdline`.

`\entity{<textString>}`
: `\entity` is intended to be used for marking a <textString> that represents some form of an entity. For example, the text `\entity{Orion}` will be printed as Orion.

`\supplement{<textStrings>}`
: Expands to the <textStrings> enclosed in square brackets. For example, the text

```
``The data \supplement{and the run control files} reside in the
\path{/data/RAOB/} directory.''
```

gives the output:
"The data [and the run control files] reside in the `/data/RAOB/` directory."

`\Attention{<blockOfText>}`
: Expands to a boldface string reading **Attention:** followed by <blockOfText>.
For example, the text

[28] CTAN:/tex-archive/macros/latex/required/tools/varioref.pdf

```
\Attention{%
  Please note that keeping food near any terminal device
  might cause unpredictable results during program execution!
}
```

gives the output:

Attention: Please note that keeping food near any terminal device might cause unpredictable results during program execution!

`\highlight{<blockOfText>}`

Expands to a yellow highlighted <blockOfText>, independent of the document version (final | draft). For example, the text

```
\highlight{The output values are still unexpected!}
```

gives the output:

The output values are still unexpected!

Attention: The `\highlight` command does not automatically produce any linebreaks and it is not sensitive to `\enforcenewline` and `\newline` commands. As a matter of fact, it can not be used to highlight more than one line of text.

`\todo{<blockOfText>}`

With a document version draft, it expands to a sequentially numbered red text *TODO* at the paper margin near the location where the `\todo` appears, and a list of TODOs, sequentially numbered, with a page indicator and the associated <blockOfText> at the end of the document. With a document version final, the `\todo` is completely ignored.

An example `\todo` command could read:

```
\todo{Table values need to be updated for the latest measurements!}
```

`\No{}`, `\CF{}`, `\EG{}`, `\ETC{}`, and `\IE{}`

`\No{}`, `\CF{}`, `\EG{}`, `\ETC{}`, and `\IE{}` are expanded to conveniently formatted strings, e.g.

the `\No{}` 4711 is magic → the No. 4711 is magic
is true, `\CF{}` the letter of → is true, cf. the letter of
is false, `\EG{}` in the case of → is false, e.g. in the case of
mist, smoke, `\ETC{}` in air. → mist, smoke, etc. in air.
is always the case, `\IE{}` true. → is always the case, i.e. true.

`\pdfTeX{}`, `\pdfLaTeX{}`, `\TeXLive{}`, `\MiKTeX{}`, `\AUCTeX{}`, and `\texmf{}`

`\pdfTeX{}`, `\pdfLaTeX{}`, `\TeXLive{}`, `\MiKTeX{}`, `\AUCTeX{}`, and `\texmf{}` are expanded to conveniently formatted strings, e.g.

`\pdfTeX{}`, `\pdfLaTeX{}`, `\TeXLive{}`, `\MiKTeX{}`, `\AUCTeX{}`, and `\texmf{}` → pdfTeX, pdfLaTeX, TeX Live, MiKTeX, AUCTeX, and `texmf`

`\wegcLaTeX{}`
: `\wegcLaTeX{}` is expanded to conveniently formatted string, e.g.
the `\wegcLaTeX{}` framework → the wegcLaTeX framework

4.2 Using the address book database

As already mentioned in Subsection 1.2, wegcLaTeX provides a handy mechanism for consistent usage of names, addresses, email addresses, web addresses, telephone numbers, and fax numbers via an extension to the KOMA-Script bundle.

The address book entries can be used for referring to real persons as well as to an organization or an institute. In the latter case, the field which stores the 'last name' should be (by convention) left empty. Address book entries are to be stored in a file named `addresses.sty` in a directory which is included in the search path defined by the `TEXINPUTS` environment variable.

For the addresses to be expanded in a document, the command `\RequirePackage{addresses}` has to be added directly behind the `\documentclass` directive in the LaTeX master file.

The address book entry for a fictive person "Karo Musterfrau" could be configured by adding the following lines to the `addresses.sty` file:

Listing 3: Example `\newaddressbookentry` address book entry in `addresses.sty`

```
\newaddressbookentry{kmf}{%
  Karo%
}{%
  K.%
}{%
  Musterfrau%
}{%
  Berggasse 37, A-1234 Lanenberg%
}{%
  \tel{43}{123}{380}{8400}{}%
}{%
  \fax{43}{123}{380}{8400}{36}%
}{%
  \email{karo.musterfrau@gmx.at}%
}{%
  \url{http://www.musterfrau.at}%
}
```

The eight fields for the address book entry of a person, identified by its shortcut personId, i.e. `\newaddressbookentry{<personId>}{<field_1>}{<field_2>} ... {<field_8>}`, are defined as described in Table 3 and may be used or extracted as indicated in Table 2. The full name of <personId> is accessed via the command `\Name{<personId>}`, resulting in an output of "Karo Musterfrau", and the short name of <personId> is accessed via the command `\ShortName{<personId>}`, resulting in an output of "K. Musterfrau".

Please note that the `\newaddressbookentry` field definitions make use of the LaTeX commands `\tel{}`, `\fax{}`, `\email{}`, and `\url{}` for properly formatting the fields.[29]

Table 2: Using the `\newaddressbookentry` entries in `addresses.sty`

Item	Example setting/access	Example output
first name	`Karo`	
abbr. first name	`K.`	
last name	`Musterfrau`	
address	`Berggasse 37, A-1234 Lanenberg`	
tel. number	`\tel{43}{123}{380}{8400}{}`	
fax number	`\fax{43}{123}{380}{8400}{36}`	
email address	`\email{karo.musterfrau@gmx.at}`	
web address	`\url{http://www.musterfrau.at}`	
name	`\Name{kmf}`	Karo Musterfrau
short name	`\ShortName{kmf}`	K. Musterfrau
address	`\Address{kmf}`	Berggasse 37, A-1234 Lanenberg
telephone number	`\Telephone{kmf}`	+43 123 380 8400
fax number	`\Fax{kmf}`	+43 123 380 8400 36
email address	`\EmailAddress{kmf}`	karo.musterfrau@gmx.at
web address	`\WebAddress{kmf}`	http://www.musterfrau.at

Table 3: Definition of `\newaddressbookentry` entries in `addresses.sty`

Field	Content	Command for access
<field_1>	first name of <personId>	
<field_2>	abbr. first name of <personId>	
<field_3>	last name of <personId>	
<field_4>	address of <personId>	`\Address{personId}`
<field_5>	tel. number of <personId>	`\Telephone{personId}`
<field_6>	fax number of <personId>	`\Fax{personId}`
<field_7>	email address of <personId>	`\EmailAddress{personId}`
<field_8>	web address of <personId>	`\WebAddress{personId}`

[29] If it is desired to suppress the hyperlinking of an email or web addresses, the LaTeX commands `\nolinkemail{}` and `\nolinkurl{}` can be used instead of `\email{}` and `\url{}`.

Table 4: Definition of `\newacronym` entries in `acronyms.sty`

Field	Content	Command
<field_1>	description of acronym <acronymId> (optional). This text, together with the acronym itself, is used in the acronym list. If the description field (together with the <description> keyword) is left out, <field_4> is used instead.	
<field_2>	acronym identifier, i.e. <acronymId>	
<field_3>	acronym used for <acronymId>	`\acs{acronymId}`
<field_4>	explicit text of acronym <acronymId>	`\acl{acronymId}`

4.3 Using the acronym database

wegcLaTeX includes the glossaries package, which provides a handy mechanism for consistent usage of names and their acronyms.

Acronym entries are to be stored in a file named `acronyms.sty` in a directory which is included in the search path defined by the `TEXINPUTS` environment variable.

The command `\RequirePackage{acronyms}` has to be added to the LaTeX master file directly behind the `\documentclass` command to make the acronym definitions available in the document. In addition, the command `\printglossary[type=acronym]` has to be included between the `\begin{document}` and `\end{document}` directives. Acronyms used in the main body of the document are then added to the acronym list. If one or more additional acronyms should be included in the acronym list, irrespective of having been used or not, they can be added via `\glsadd{<acronymId>}` commands in the main body of the document.

The acronym for a fictive company "The Muppet Company, Inc. (TMC)" could be defined by adding the following lines to the `acronyms.sty` file:

Listing 4: Example `\newacronym` entry in `acronyms.sty`

```
\newacronym[description={%
  The Muppet Company \textemdash{} a respected and trusted supplier of evocative \
       learning systems}]{tmc}{TMC}{%
  The Muppet Company\p, Inc\p.%
}
```

The four fields for an acronym entry, identified by its shortcut acronymId, i.e. `\newacronym[description={<field_1>}]{<field_2>}{<field_3>}{<field_4>}`, are defined as described in Table 4. The commands for using the acronyms are listed in the following (Table 5):

Table 5: List of acronym commands

`\ac{acronymId}`	Prints the acronym plus the explicit text of acronym when used for the first time; any further use of `\ac{}` will no longer generate the acronym plus the explicit text of the acronym, but the acronym only—unless it is reset with a `\glsreset{}` or `\glsresetall` command. This is the recommended command to use, since it will automatically guarantee the consistent usage of acronyms within the document.
`\acs{acronymId}`	Prints the acronym only (short form).
`\acl{acronymId}`	Prints the explicit text of acronym (long form).
`\acf{acronymId}`	Prints the acronym plus the explicit text of acronym (full form).

`\acp{acronymId}`
`\acsp{acronymId}`
`\aclp{acronymId}`
`\acfp{acronymId}`
	Same as above, but printing the plural form of the acronym. The default is to add the letter "s" to obtain the plural form. To override this, the plural form can be given in the definition of the acronym. Please refer to the glossaries user manual for details.

`\aces{acronymId}`
`\acesp{acronymId}`
`\acel{acronymId}`
`\acelp{acronymId}`
`\acef{acronymId}`
`\acefp{acronymId}`
	Same as above, but without hyperlinking. This is needed for moving arguments, such as those used by `\chapter`, `\section`, or `\caption`. Use only these commands in such environments!

The acronym description defined in <field_1> along with the acronym itself (i.e. <field_3>) is used in the acronym list, generated at the position where the LaTeX command `\printglossary[type=acronym]` is placed. If the optional <description> specifier is not used in the definition of the acronym, the long form is used in the acronym list instead. It is good practice to always define the acronym description, either by simply repeating the long form (<field_4>), or by repeating the long form together with some additional descriptive text if needed for better understanding. The additional text could be supplied using the command `\supplement{<textStrings>}`, see Subsection 4.1.

To achieve a consistent use of acronyms throughout the document, it is recommended to almost always use the basic acronym command `\ac{acronymId}` in the text. This ensures that the correct form of the acronym (short form or full form) is used. Exceptions to this rule might apply e.g. for figure captions or chapter headings, where an explicit form of the acronym can be more appropriate. Please note that in these LaTeX environments the acronym commands without hyperlinking must be used (Table 5). For longer documents it might be desirable to repeat the full form of an acronym in a new chapter even though it was already used in a previous chapter. To achieve this, use the `\glsresetall` command

in-between chapters.

Some examples on how the acronym extraction commands are to be applied, together with the expected output, are given in Table 6.

Table 6: Using the `\newacronym` entries in `acronyms.sty`

Item	Example setting/access	Example output
description of acronym	`The Muppet Company \textemdash{} a respected and trusted supplier of evocative systems`	
acronym identifier	`tmc`	
acronym	`TMC`	
explicit text of acronym	`The Muppet Company\p, Inc\p.`	
acronym	`\acs{tmpc}`	TMC
acronym, not hyperlinked, to be used e.g. in `\chapter`, `\section` environments	`\aces{tmpc}`	TMC
explicit text of acronym	`\acl{tmpc}`	The Muppet Company, Inc.
acronym plus explicit text of acronym[30]	`\ac{tmc}`	The Muppet Company, Inc. (TMC)
acronym	`\ac{tmc}`	TMC
acronym plus explicit text of acronym	`\glsreset{tmc}\ac{tmc}`	The Muppet Company, Inc. (TMC)
acronym	`\ac{tmc}`	TMC
acronym, plural form	`\acp{tmc}`	TMCs
acronym plus explicit text of acronym	`\acf{tmc}`	The Muppet Company, Inc. (TMC)
acronym plus explicit text, not hyperlinked, to be used e.g. in `\chapter`, `\section` environments	`\acef{tmc}`	The Muppet Company, Inc. (TMC)

[30] Please note that after `\ac` has been used here, any further use of `\ac{}` will no longer generate the acronym plus the explicit text of the acronym, but the acronym only—unless it is reset with a `\glsreset{}` or `\glsresetall` command.

4.4 Using the glossary database

Since wegcLaTeX includes the glossaries package, the inclusion of a glossary is easily accomplished. Glossary entries are to be stored in a file named `terms.sty` in a directory which is included in the search path defined by the `TEXINPUTS` environment variable.

For the glossary listing to appear in a document, the command `\RequirePackage{terms}` has to be added directly behind the `\documentclass` in the LaTeX master file, the command `\printglossary[type=main]` has to be included between the `\begin{document}` and `\end{document}` directives, and the `\glsadd{}` directives have to be added in the main document body.

A glossary entry for a fictive process of "firlefanzation" could be configured by adding the following lines to the `terms.sty` file:

Listing 5: Example `\newglossaryentry` entry in `terms.sty`

```
\newglossaryentry{firlefanzation}{%
  name={firlefanzation},%
  description={The process of firlefanzation is the firlefancing of a fanz},%
  plural={firlefanzations}%
}
```

The two arguments for a glossary entry, identified by its glossaryId in <field_1>, i.e. `\newglossaryentry{<field_1>}{<setting_1=value_1>, ..., <setting_3=value_3>}`, are defined as described in Table 7.

As can be seen from the example Listing 5, the definition consists of a first argument, the unique label <glossaryId> used to identify the term, and the second argument, which is a key=value comma separated list key=value pairs used to set the required information for the term. The principle keys are name, description and plural.

Table 7: Definition of `\newglossaryentry` entries in `terms.sty`

Field	Content	Keyword for setting values
<field_1>	glossary identifier, i.e. <glossaryId>	
<setting_1>	name associated with the <glossaryId>	`name=`
<setting_2>	description associated with the <glossaryId>	`description=`
<setting_3>	plural of <glossaryId>'s name	`plural=`

Once a term is defined, it can be used in the document. The main commands for accessing the glossary entries are:

`\gls{<glossaryId>}`
: This prints the term associated with <glossaryId>, e.g. "firlefanzation".

`\glspl{<glossaryId>}`

This prints plural of the term associated with <glossaryId>, e.g. “firlefanzations”.

`\Gls{<glossaryId>}`
: This prints the term associated with <glossaryId>, with the first character converted to upper case, e.g. “Firlefanzation”.

`\Glspl{<glossaryId>}`
: This prints plural of the term associated with <glossaryId>, with the first character converted to upper case, e.g. “Firlefanzations”.

5 Practical tips on frequently used features

5.1 Tailoring the titlepage

5.2 Tailoring the bibliography

5.3 Including excerpts of PDF documents

5.4 Including graphics and images

It is recommended to include graphics only as PNG and PDF files. For creating the PDF, first produce the graphics file as EPS, and in a second step, convert it with `epstopdf` into a properly sized PDF, ready for inclusion with the `figure`-environment.

5.5 Including tables

5.6 Including text and source code listings

5.7 Including verbatim commandline dialogues

5.8 Using numerical values and units

`\num{<numericalValue>}`

`\num` is expanded to a properly formatted <numericalValue> with or without an exponent, e.g.
`\num{-1.45d-3}` $\rightarrow$ -1.45×10^{-3}
`\num{-1.46}` $\rightarrow$ -1.46

`\SI{<numericalValue>}{<siUnitString>}`

`\SI` is expanded to a properly formatted string containing SI units with or without an exponent. For example usage, please see Table 8, Page 30.

`\SIrange{<value1>}{<value2>}{<siUnitString>}`

Table 8: Formatting SI Units

\SI{}{} Command example	Output
`\SI{10.00}{\micro\meter\per\second\squared}`	$10.00\,\mu m\,s^{-2}$
`\SI{1.2}{\percent}`	$1.2\,\%$
`\SI{25.4}{\deci\bel\per\minute\squared}`	$25.4\,dB\,min^{-2}$
`\SI{25.4}{\deci\bel\per\minute\cubed}`	$25.4\,dB\,min^{-3}$
`\SI{34}{\degree N}`	$34\,°N$
`\SI{5.67788954}{\metre^{-2/3}}`	$5.677\,889\,54\,m^{-2/3}$
`\SI{}{\metre\squared\per\second\squared}`	$m^2\,s^{-2}$
`\SI{0.7760}{\kelvin\per\pascal}`	$0.7760\,K\,Pa^{-1}$
`\SI{3.0d11}{\per\metre\cubed}`	$3.0 \times 10^{11}\,m^{-3}$
`\SI{d11}{\per\metre\cubed}`	$10^{11}\,m^{-3}$
`\SI{4771.621}{\per\centi\metre}`	$4771.621\,cm^{-1}$
`\SI{1}{\per\cubic\metre}`	$1\,m^{-3}$
`\SI{287.05}{\joule\per\kilogram\per\kelvin}`	$287.05\,J\,kg^{-1}\,K^{-1}$
`\SI{}{10^{\text{\,samplerate}\per 10} }`	$10^{\text{samplerate}/10}$
`\SIrange{20}{50}{\degree N}`	$20\,°N$ to $50\,°N$
`on a $\SI{3.75}{\degree} \times \SI{3.75}{\degree}$ grid`	on a $3.75° \times 3.75°$ grid
`$R=\SI{8.314}{\joule\per\kelvin\per\mole}$`	$R = 8.314\,J\,K^{-1}\,mol^{-1}$
`oscillations (up to $\pm \SI{2}{\percent}$)`	oscillations (up to $\pm 2\,\%$)
`amounts to \SI{280}{N\hyphen{}Units}`	amounts to 280 N-Units
`amounts to \SI{0.123}{N\hyphen{Units}}`	amounts to 0.123 N-Units
`\mbox{\SI{25}{\degree} N\textfractionsolidus{}S}`	25° N/S
`amounts to \SI{6690311}{\kilo\meter\squared}`	amounts to $6\,690\,311\,km^2$
`consider \SI{+6.5}{\%} vs. \SI{-6.5}{\%}`	consider $6.5\,\%$ vs. $-6.5\,\%$
`$G = \SI{6.674d-11}{\cubic\meter\per\kilo\gram\per\second\squared}$`	$G = 6.674 \times 10^{-11}\,m^3\,kg^{-1}\,s^{-2}$
`$f=\SI{2}{cycles \per\day}$`	$f = 2\,cycles/d$
`$\SI{1}{\text{sfu}} = \SI{1.0d-22}{\watt\per\meter\squared\per\hertz}$`	$1\,sfu = 1.0 \times 10^{-22}\,W\,m^{-2}\,Hz^{-1}$

6 Using the document templates

This section gives a quick recipe-like description on how to create a simple singledoc or multidoc report, article and book, based on the templates provided. It is assumed that the wegcLaTeX framework is already properly installed (see Section 2).

As an illustrative example, this document itself ("The wegcLaTeX documentation framework: a guide for beginners") is used. Its core LaTeX text is provided as seven individual LaTeX source code files in the subdirectory `./texmf/doc/latex/wegc-latex/WLG/`, i.e.
`WLG-1_introduction`,
`WLG-2_installation`,
`WLG-3_documentGeneration`,
`WLG-4_commandsAndEnvironments`,
`WLG-5_practicalTips`,
`WLG-6_usingTheTemplates`, and
`WLG-7_undocumentedTopics`.

Attention: Please note that in these recipe-like descriptions of modifications to template master files, the original line numbers of the template master files are used and not those which arise after any of the modifications have been performed.

6.1 Using singledoc document templates

The wegcLaTeX documentation framework provides in the subdirectory `./texmf/doc/latex/wegc-latex/examples/singledoc/` three templates for singledoc document publications, i.e. a report template `master-wlreport.tex`, an article template `master-wlarticle.tex`, and a book template `master-wlbook.tex`.

6.1.1 Creating a singledoc document article

For creating a singledoc article, proceed as follows:

1. create a working directory for building the wegcLaTeX singledoc article, e.g. `/home/<user>/wlSingleDocTest/`
2. create a subdirectory `/home/<user>/wlSingleDocTest/wlg/` for storing the seven LaTeX source code files
3. copy the seven LaTeX source code files from `./texmf/doc/latex/wegc-latex/WLG/` to `/home/<user>/wlSingleDocTest/wlg/`
4. copy the PDF file anisap-TN2.pdf from `./texmf/doc/latex/wegc-latex/WLG/` to `/home/<user>/wlSingleDocTest/wlg/`
5. copy the LaTeX template master file `./texmf/doc/latex/wegc-latex/examples/singledoc/master-wlarticle.tex` to `/home/<user>/wlSingleDocTest/wlg/`

6. create a subdirectory `/home/<user>/wlSingleDocTest/common/` for storing the five files `addresses.sty`, `acronyms.sty`, `terms.sty`, `docstyle.sty`, and `commands.sty`

7. copy the two files `docstyle.sty` and `commands.sty` from `./texmf/doc/latex/wegc-latex/examples/common/` to `/home/<user>/wlSingleDocTest/common/`

8. extract the three example only files `acronyms.sty`, `addresses.sty`, and `terms.sty` from the compressed archive file `./texmf/doc/latex/wegc-latex/WLG/acronymsAddressesTerms_ExampleDoNotUse.tar.gz` or use the current and up to date versions available at `https://wegc203117.uni-graz.at/projects/latex_dbs/browser/arsclisys` and put them to `/home/<user>/wlSingleDocTest/common/`

9. add the address for the fictive person "Karo Musterfrau" at the end of the copied file `addresses.sty`, as described in Subsection 4.2

10. add the acronym for the fictive company "The Muppet Company, Inc. (TMC)" at the end of the copied file `acronyms.sty`, as described in Subsection 4.3

11. add the glossary entry for the fictive term "Firlefanzation" at the end of the copied file `terms.sty`, as described in Subsection 4.4

12. create an example bibliography file `exampleBibFile.bib` in the `/home/<user>/wlSingleDocTest/wlg` directory, containing the following lines:

Listing 6: Example bibliography file `exampleBibFile.bib`

```
@ARTICLE{Gorbunov2007a,
  shorthand = {Gorbunov2007a},
  author = {M. E. Gorbunov and K. B. Lauritsen},
  year = 2007,
  title = {{L}inearized {Z}verev {T}ransform and its Application for Modeling
    Radio Occultations},
  journal = {Radio Science},
  volume = 42,
  number = 3,
  pages = {RS3022},
  doi = {10. 1029/2006RS003585}
}
@ARTICLE{Gorbunov2002a,
  shorthand = {Gorbunov2002a},
  author = {M. E. Gorbunov and A. S. Gurvich and A. V. Shmakov},
  year = 2002,
  title = {Back-Propagation and Radio-Holographic Methods for Investigation of
    Sporadic Ionospheric {E}-Layers from {M}icrolab-1 Data},
  journal = {Int. J. Remote Sens.},
```

```
  volume = 23,
  number = 4,
  pages = {675-685},
  language = {english}
}
@ARTICLE{Gorbunov1986,
  shorthand = {Gorbunov1986},
  author = {M. E. Gorbunov},
  year = 1986,
  title = {On Mean Statistical Variations of Refraction Angles for
    Transillumination of the Earth's atmosphere},
  journal = {Izvestiya AN SSSR, Atmospheric and Oceanic Physics},
  volume = 22,
  number = 5,
  pages = {415-417},
  language = {english}
}
```

13. copy the template master file
`/home/<user>/wlSingleDocTest/wlg/master-wlarticle.tex` to
`/home/<user>/wlSingleDocTest/wlg/wlgArticle.tex`
and apply the following modifications:
    a) at line 115, change `DIV=default` to `DIV=11`
    b) on lines 151 to 204: change from

```
\titlehead{%
  \highlight{\placeholder{My Title Head}}%
}
\subject{%
  \highlight{\placeholder{My Subject}}%
}
\title{%
  \highlight{\placeholder{My Title}}%
}
\subtitle{%
  \highlight{\placeholder{My Subtitle}}%
}
\author{%
  \highlight{\placeholder{My Author}}\thanks{\highlight{\placeholder{My \
       Thanks}}}%
}
\date{%
  \highlight{\placeholder{My Date}}%
}
\publishers{%
  \highlight{\placeholder{My Publishers}}%
```

```
}
\makeglossaries
\setglossarypreamble[main]{%
  \highlight{\placeholder{My Glossary Preamble}}%
}
\setglossarypreamble[acronym]{%
  \highlight{\placeholder{My Acronyms Preamble}}%
}
\setglossarypreamble[notation]{%
  \highlight{\placeholder{My Notation Preamble}}%
}
```

to

```
\titlehead{%
  %
}
\subject{%
  %
}
\title{%
  The \wegcLaTeX{} documentation framework: \newline a guide for beginners%
}
\subtitle{%
  %
}
\author{%
  \Name{mip}\thanks{\Address{wegc}}%
}
\date{%
  2013-02-09%
}
\publishers{%
  \Name{wegc}%
}
\makeglossaries
\setglossarypreamble[main]{%
  %
}
\setglossarypreamble[acronym]{%
  %
}
\setglossarypreamble[notation]{%
  %
}
```

c) on lines 213 to 219: change from

```
\bibliography{%
}
\defbibnote{refpreamble}{%
  \highlight{\placeholder{My References Preamble}}%
}
```

to

```
\bibliography{%
  exampleBibFile%
}
\defbibnote{refpreamble}{%
  %
}
```

d) between lines 233 and 239, reading

```
\makeatletter

%% NOTE: Here, we can act as class and package authors if we want or need \
     to do so ...

\makeatother
```

add the following command definitiosn for singledoc and multidoc:

```
\makeatletter

%% NOTE: Here, we can act as class and package authors if we want or need \
     to do so ...

\newcommand*{\singledoc}{%
  \entity{singledoc} %
}

\newcommand*{\multidoc}{%
  \entity{multidoc} %
}

\makeatother
```

e) between lines 269 and 272, reading

```
\printglossary[type=main]

\appendix
```

add the following content:

```
\printglossary[type=main]

\nocite{Gorbunov2007a}
\nocite{Gorbunov2002a}
\nocite{Gorbunov1986}

\glsadd{development_team}
\glsadd{firlefanzation}

\glsadd{urd}
\glsadd{add}
\glsadd{ddd}
\glsadd{sum}
\glsadd{atr}

\include{WLG-1_introduction}
\include{WLG-2_installation}
\include{WLG-3_documentGeneration}
\include{WLG-4_commandsAndEnvironments}
\include{WLG-5_practicalTips}
\include{WLG-6_usingTheTemplates}
\include{WLG-7_undocumentedTopics}

\appendix
```

f) near the lines 135, directly after the `\documentclass` directive, add the following commands:

```
\RequirePackage{acronyms}
\RequirePackage{terms}
\RequirePackage{addresses}
\RequirePackage{commands}
```

14. Finally, compile the master file
`/home/<user>/wlSingleDocTest/wlg/wlgArticle.tex`
as described in Subsection 3.1.

6.1.2 Creating a singledoc document report

For creating a singledoc report, copy the LaTeX template master file
`./texmf/doc/latex/wegc-latex/examples/singledoc/master-wlreport.tex` to
`/home/<user>/wlSingleDocTest/wlg/`.
Then copy the file

/home/<user>/wlSingleDocTest/wlg/master-wlreport.tex to
/home/<user>/wlSingleDocTest/wlg/wlgReport.tex
and perform all other steps similar to the description in Subsection 6.1.1, considering the following differences:

1. change the setting for `\extratitle`, `\uppertitleback`, and `\lowertitleback` from

```
\extratitle{%
  \highlight{\placeholder{My Bastard Title}}%
}
\uppertitleback{%
  \highlight{\placeholder{My Upper Title Back}}%
}
\lowertitleback{%
  \highlight{\placeholder{My Lower Title Back}}%
}
```

   to

```
\extratitle{%
  %
}
\uppertitleback{%
  %
}
\lowertitleback{%
  %
}
```

   or to specific texts fitting the intended publication.

2. instead of

```
\defbibnote{refpreamble}{%
  \highlight{\placeholder{My References Preamble}}%
}
```

   change it to

```
\defbibnote{bibpreamble}{%
  %
}
```

   or to a specific text appropriate for the intended publication.

3. modify the document structuring directives `\section`, `\subsection` and `\subsubsection` used within the files
   `WLG-1_introduction`,
   `WLG-2_installation`,
   `WLG-3_documentGeneration`,
   `WLG-4_commandsAndEnvironments`,
   `WLG-5_practicalTips`,
   `WLG-6_usingTheTemplates`, and
   `WLG-7_undocumentedTopics` to
   `\chapter`, `\section` and `\subsection`, adapting it to the proper sectioning for report documents.

4. place the `\include` directives for including the seven LaTeX subdocument files between the `\printglossary` and `\appendix` commands.

5. Finally, compile the master file `wlgReport.tex` as described in Subsection 3.1.

6.1.3 Creating a singledoc document book

For creating a singledoc book, copy the LaTeX template master file
`./texmf/doc/latex/wegc-latex/examples/singledoc/master-wlbook.tex` to
`/home/<user>/wlSingleDocTest/wlg/`.
Then copy the file
`/home/<user>/wlSingleDocTest/wlg/master-wlbook.tex` to
`/home/<user>/wlSingleDocTest/wlg/wlgBook.tex`
and perform all other steps similar to the description in Subsection 6.1.1, considering the following differences:

1. change the settings for `\extratitle`, `\uppertitleback`, `\lowertitleback`, `\upperinfopage`, `\lowerinfopage`, and `\lastpage` from

```
\extratitle{%
  \highlight{\placeholder{My Bastard Title}}%
}
\uppertitleback{%
  \highlight{\placeholder{My Upper Title Back}}%
}
\lowertitleback{%
  \highlight{\placeholder{My Lower Title Back}}%
}
\upperinfopage{%
  \highlight{\placeholder{My Upper Info Page}}%
}
\lowerinfopage{%
  \highlight{\placeholder{My Lower Info Page}}%
}
```

```
\lastpage{%
  \highlight{\placeholder{My Last Page}}%
}
```

to

```
\extratitle{%
  %
}
\uppertitleback{%
  %
}
\lowertitleback{%
  %
}
\upperinfopage{%
  %
}
\lowerinfopage{%
  %
}
\lastpage{%
  %
}
```

or to the specific texts fitting the intended publication.

2. instead of

```
\defbibnote{refpreamble}{%
  \highlight{\placeholder{My References Preamble}}%
}
```

change it to

```
\defbibnote{bibpreamble}{%
  %
}
```

or to a specific text appropriate for the intended publication.

3. modify the document structuring directives `\section`, `\subsection` and `\subsubsection` used in the seven LaTeX files to `\chapter`, `\section` and `\subsection`, adapting it to the proper sectioning for book documents (similar to Subsection 6.1.2 Item 3).

4. place the `\include` directives for including the seven LaTeX subdocument files between the `\mainmatter` and `\appendix` commands.

5. finally, compile the master file `wlgBook.tex` as described in Subsection 3.1.

6.2 Using multidoc document templates

The multidoc templates are intended for publications that comprise two or more articles, reports or books and which shall have a common and consistent layout of the document front matter, e.g. title page, distribution list, document revision history, bibliography, lists of figures and tables as well as document headings.

Sample pages for a multidoc title page, document release information page, document distribution list and document change record are provided in Figure 1, Figure 2, Figure 3 and Figure 4.

6.2.1 Tailoring the document headings

The layout of the document headings (i.e. the header for the running pages, see Figure 5) is the same for article, book and report documents and is structured into three parts:

1. a four line text block on the left side (the exact definition of the concatenation of the string components is given in Listing 8) comprising
   a) the document header title (built as a concatenated string from the document header title substring `\ThisDocHeaderTitleSubstr` and the document subtitle string `\ThisDocSubtitle`
   b) the document identifier (build as a concatenated string from the document identifier substring `\ThisDocIdSubstr`, the document release year `\ThisDocYear`, the document type[31] `\ThisDocType` (e.g. TR (Technical Report) or AR (Annual Report)), and the document internal number `\ThisDocIntNum`)
   c) the document version (build as a concatenated string from the document issue number `\ThisDocIssue` and the document revision number `\ThisDocRevision`), and
   d) the document release date
2. a central single text line indicating the respective current section or chapter number and section or chapter title, and
3. a graphics block (of corporate logos) on the right side.

The details and the structure of the document headings are defined in the file `docstyle.sty` near line 315 to 354 (see Listing 9).

Since individual details for a specific document from a multidoc documentation task are different from document to document due to the different document content, document type, document identifiers, document issue, document revision, document release date etc., these details are only predefined in the file `docstyle.sty`, and intended to be specifically tailored in each individual document's masterfile.

[31] The acronyms used for the various document types need to be defined in the file `acronyms.sty`, see Subsection 4.3, Page 23.

Wegener Center for Climate and Global Change
Atmospheric Remote Sensing and Climate System Rresearch Group
University of Graz

Wegener Center/University of Graz Technical Note for ESA No. 2/2013

Project ANISAP:
Analysis of Normalised Differential Spectral Attenuation (NDSA) technique for Inter-Satellite Atmospheric Profiling
[ESA ESTEC Contract No. 4000104831]

Analysis derived Global Database and Radiosonde Database for the ANISAP Project

Prepared by:
S. Schweitzer and G. Kirchengast

Doc-ID: WEGC-ANISAP–2013–TN7
Issue 1.1
31st January, 2013

Wegener Center for Climate and Global Change
University of Graz

Figure 1: Example of a multidoc document title page

ANISAP Analysis derived databases

Document Release Information

Doc-ID:	WEGC-ANISAP–2013–TN7
Issue:	1.1
Date:	31st January, 2013
Prepared by:	S. Schweitzer and G. Kirchengast
Authorized by:	G. Kirchengast, WEGC/University of Graz
Customer Approval by:	P. Silvestrin, ESA/ESTEC

Figure 2: Example of a multidoc document release information page

Document Distribution List

Name	Organization	Email Address	Copies
G. Kirchengast	WEGC/UG	gottfried.kirchengast@uni-graz.at	1
S. Schweitzer	WEGC/UG	susanne.schweitzer@uni-graz.at	1
V. Proschek	WEGC/UG	veronika.proschek@uni-graz.at	1
P. Silvestrin	ESA/ESTEC	pierluigi.silvestrin@esa.int	1

Figure 3: Example of a multidoc document distribution list page

Document Change Record

Issue	Date	Change
Version 1.0	20th February, 2013	Original version of the document.
Version 1.1	21st February, 2013	Updates throughout the document by minor changes and editorial corrections for clarification.

Figure 4: Example of a multidoc document change record page

Table 2.1: Overview of the data contained in the global database of ANISAP.

dates	15$^{\text{th}}$ January 2011
	15$^{\text{th}}$ April 2011
	15$^{\text{th}}$ July 2011
	15$^{\text{th}}$ October 2011
time layers	00:00 UTC
	12:00 UTC
variables	pressure (Pa)
	temperature (K)
	specific humidity (kg kg^{-1})
	liquid water content (kg m^{-3})
	ice water content (kg m^{-3})
	u component of wind (m s^{-1})
	v component of wind (m s^{-1})
latitude range	90° S to 90° N, 5° stepsize
longitude range	180° W to 180° E, 5° stepsize
height range	2000 m to 80 000 m, 500 m stepsize

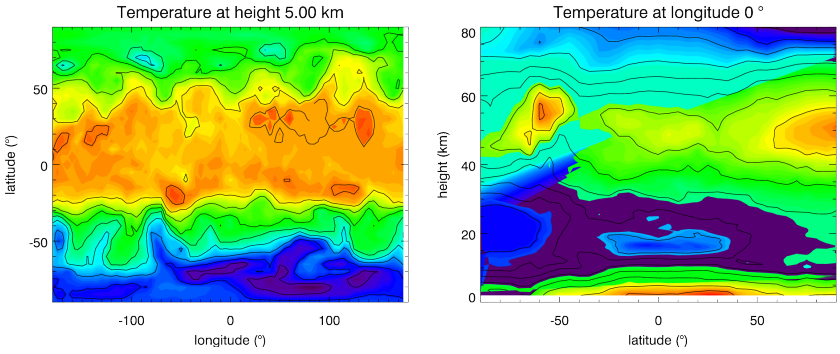

Figure 2.1: Exemplary temperature slices from the temperature field of the 15$^{\text{th}}$ July 2011 (12:00 UTC) contained in the ANISAP global database. The panel on the left shows the temperature field at a height of 5 km and the panel on the right shows a latitude-height slice at longitude 0°.

Figure 5: Example of a multidoc document random page

In essence, a block of redefining LaTeX commands has to be added (between the two already present commands `\makeatletter` and `\makeatother`) to the master file, similar to the example given in Listing 7.

Listing 7: Definition of document headings in the masterfile

```
\makeatletter

\renewcommand*{\ThisDocType}{%
  tr%
}
\renewcommand*{\ThisDocExtNum}{%
  03%
}
\renewcommand*{\ThisDocIntNum}{%
  37%
}
\renewcommand*{\ThisDocIssue}{%
  1%
}
\renewcommand*{\ThisDocRevision}{%
  3%
}
\renewcommand*{\subtitlePrefix}{%
  %
}
\renewcommand*{\ThisDocSubtitle}{%
  WLG Quickstart Guide%
}
\renewcommand*{\ThisDocHeaderTitleSubstr}{%
  \wegcLaTeX{}%
}
\renewcommand*{\ThisDocIdSubstr}{%
  \aces{wegc}-WLG-QSG%
}
\newdate{ThisDocDate}{13}{8}{2025}
\renewcommand*{\ThisDocDate}{%
  \displaydate{ThisDocDate}%
}
\renewcommand*{\ThisDocYear}{%
  %% \getdateyear{ThisDocDate}%
  2028%
}

\makeatother
```

Listing 8: Definition of the documents headings text block in `docstyle.sty`

```
\newcommand*{\ThisDocIdSubstr}{%
  \highlight{\latexcmd{\ThisDocIdSubstr}}%
}
\newcommand*{\ThisDocId}{%
  \ThisDocIdSubstr\mbox{--}\hardbreak%
  \ThisDocYear\mbox{--}\hardbreak%
  \aces{\ThisDocType}\ThisDocIntNum%
}
\newcommand*{\ThisDocVersion}{%
  \version{\ThisDocIssue}{\ThisDocRevision}{}{}%
}
\newcommand*{\ThisDocHeaderTitleSubstr}{%
  \highlight{\latexcmd{\ThisDocHeaderTitleSubstr}}%
}
\newcommand*{\ThisDocHeaderTitle}{%
  \ThisDocHeaderTitleSubstr \mbox{} \ThisDocSubtitle%
}
```

Listing 9: Definition of the document headings in `docstyle.sty`

```
\newcommand*{\LeftHead@ThisDocHeadings}{%
  \begin{varwidth}[b]{\textwidth}%
    \begin{tabular}[b]{@{}l<{:}@{\enskip}l@{}}%
      \multicolumn{2}{@{}l@{}}{\textbf{\ThisDocHeaderTitle}}\\%
      \docid & \ThisDocId     \\%
      Issue  & \ThisDocVersion\\%
      Date   & \ThisDocDate%
    \end{tabular}%
  \end{varwidth}%
}
\newcommand*{\CentralHead@ThisDocHeadings}{%
  \begin{varwidth}[b][\PlainHeadHeight@ThisDocHeadings][c]{\textwidth}%
    \makebox[\width+2.0em]{\textsl{\headmark}}%
  \end{varwidth}%
}
%% NOTE: The dvipdfmx output driver does not support trimming yet.
\newcommand*{\RightHead@ThisDocHeadings}{%
  \begin{varwidth}[b]{\textwidth}%
    \ifthenelse{\boolean{PDFVersion}}{%
      \includegraphics[height=\PlainHeadHeight@ThisDocHeadings, trim={0pt 2pt 0pt -6pt}]{logo-wegc-small}%
    }{%
      \includegraphics[height=\PlainHeadHeight@ThisDocHeadings-4pt]{logo-wegc-small}%
    }%
  \end{varwidth}%
}
\newpagestyle{ThisDocHeadings}{%
  {\LeftHead@ThisDocHeadings\hfill\CentralHead@ThisDocHeadings\hfill\RightHead@ThisDocHeadings}%
  {\LeftHead@ThisDocHeadings\hfill\CentralHead@ThisDocHeadings\hfill\RightHead@ThisDocHeadings}%
  {\LeftHead@ThisDocHeadings\hfill\CentralHead@ThisDocHeadings\hfill\RightHead@ThisDocHeadings}%
}{%
  {\pagemark\hfill}%
  {\hfill\pagemark}%
  {\hfill\pagemark\hfill}%
}
```

6.2.2 Tailoring the common elements of the title page

The layout of the document title page is the same for article, book and report documents and contains elements, which are common and the same for all documents of a documentation task, i.e. the title page header, the title page footer, the document publisher details, the title head and the subject details, and those that are different due to the individual document content, e.g. the document title or the document authors.

Title page header and footer

The common elements title page header and title page footer are defined and specified in the file `docstyle.sty` near lines 252 and 271 (see Listing 10).

Listing 10: Definition of title page header and footer details in `docstyle.sty`

```
252 \newcommand*{\Head@@ThisDocTitlePage}{%
253   \upshape%
254   \begin{varwidth}[b][0pt]{\paperwidth}%
255     \LaTeXraggedleft%
256     \Name{wegc}\\%
257     \Name{igam}\\%
258     \Name{ug}%
259   \end{varwidth}%
260   \quad%
261   \begin{varwidth}[b][0pt]{\paperwidth}%
262     \includegraphics[height=50.0pt]{logo-ug-medium}%
263     \hspace{2.0pt}%
264     \includegraphics[height=50.0pt]{logo-wegc-medium}%
265     \hspace{2.0pt}%
266     \includegraphics[height=50.0pt]{logo-igam-medium}%
267   \end{varwidth}%
268 }
270
271 \newcommand*{\Foot@@ThisDocTitlePage}{%
272   \upshape%
273   \begin{varwidth}[t][0pt]{\paperwidth}%
274     \LaTeXcentering%
275     \Address{wegc}\\%
276     \Address{igam}\\%
277     \ShortName{wegc} Web\p: \WebAddress{wegc}\\%
278     \ShortName{igam} Web\p: \WebAddress{igam}\\%
279 %%    \ShortName{ug} Web\p: \WebAddress{ug}\\%
280   \end{varwidth}%
281 }
```

If, for example, the combined IGAM/WEGC title page header and footer shall be replaced with the plain WEGC title page header and footer, then the corresponding section in file `docstyle.sty` is to be modified as shown in Listing 11.

Listing 11: Alternate definition of title page header and footer in `docstyle.sty`

```
\newcommand*{\Head@@ThisDocTitlePage}{%
  \upshape%
  \begin{varwidth}[b][0pt]{\paperwidth}%
    \LaTeXraggedleft%
    \Name{wegc}\\%
    %% \Name{igam}\\%
    \Name{ug}%
  \end{varwidth}%
  \quad%
  \begin{varwidth}[b][0pt]{\paperwidth}%
    \includegraphics[height=50.0pt]{logo-ug-medium}%
    \hspace{2.0pt}%
    \includegraphics[height=50.0pt]{logo-wegc-medium}%
    %% \hspace{2.0pt}%
    %% \includegraphics[height=50.0pt]{logo-igam-medium}%
  \end{varwidth}%
}

\newcommand*{\Foot@@ThisDocTitlePage}{%
  \upshape%
  \begin{varwidth}[t][0pt]{\paperwidth}%
    \LaTeXcentering%
    \Address{wegc}\\%
    %% \Address{igam}\\%
    \ShortName{wegc} Web\p: \WebAddress{wegc}\\%
    %% \ShortName{igam} Web\p: \WebAddress{igam}\\%
    \ShortName{ug} Web\p: \WebAddress{ug}\\%
  \end{varwidth}%
}
```

Title head and title subject details

The title head and title subject details for the title page are defined in the file `docstyle.sty` near lines 444 to 471 (see Listing 12).

Listing 12: Definition of the title page title head and subject details in `docstyle.sty`

```
444 \newcommand*{\titleheadSubstr}{%
445   \highlight{\latexcmd{\titleheadSubstr}}%
446 }
449 \newcommand*{\titleheadSubSubstr}{%
450   \highlight{\latexcmd{\titleheadSubSubstr}}%
451 }
454 \titlehead{%
455   \makebox[\linewidth]{\titleheadSubstr \hbox{} \acel{\ThisDocType} for \
        \titleheadSubSubstr \hbox{} \No{} \
        \ThisDocExtNum\textfractionsolidus\ThisDocYear}%
```

```
456 }
459 \newcommand*{\subjectStr}{%
460   \highlight{\latexcmd{\subjectStr}}\p:\\%
461 }
464 \newcommand*{\subjectSubstr}{%
465   \highlight{\latexcmd{\subjectSubstr}}%
466 }
469 \subject{%
470   \subjectStr\subjectSubstr%
471 }
```

For changing the title page title head and subject details to something different, the corresponding section in file `docstyle.sty` could be modified as shown in Listing 13.

Listing 13: Alternate definition of title page title head and subject details in `docstyle.sty`

```
\newcommand*{\titleheadSubstr}{%
  \aces{wegc}%
}
\newcommand*{\titleheadSubSubstr}{%
  \aces{esa}%
}
\titlehead{%
  \makebox[\linewidth]{\titleheadSubstr \hbox{} \acel{\ThisDocType} for \
       \titleheadSubSubstr \hbox{} \No{} \
       \ThisDocExtNum\textfractionsolidus\ThisDocYear}%
}
\newcommand*{\subjectStr}{%
  rOPS Project\p:\\%
}
\newcommand*{\subjectSubstr}{%
  Typesetting and Document Generation%
}
\subject{%
  \subjectStr\subjectSubstr%
}
```

Publisher information

The document publisher information for the title page is defined in the file `docstyle.sty` near lines 504 to 520 (see Listing 14).

Listing 14: Definition of the title page publisher details in `docstyle.sty`

```
504 \newcommand*{\publishersSubstr}{%
505   \highlight{\latexcmd{\publishersSubstr}}%
506 }
509 \newcommand*{\publishersSubSubstr}{%
```

```
510   \highlight{\latexcmd{\publishersSubSubstr}}%
511 }
514 \newcommand*{\publishersSubSubSubstr}{%
515   \highlight{\latexcmd{\publishersSubSubSubstr}}%
516 }
518 \publishers{%
519   \publishersSubstr\\\publishersSubSubstr\\\publishersSubSubSubstr%
520 }
```

For changing the title page publisher details to the plain WEGC title page publisher details, the corresponding section in file `docstyle.sty` is to be modified as shown in Listing 15.

Listing 15: Alternate definition of title publisher details in `docstyle.sty`

```
\newcommand*{\publishersSubstr}{%
  \acl{wegc}%
}
\newcommand*{\publishersSubSubstr}{%
  \acl{ug}%
}
\newcommand*{\publishersSubSubSubstr}{%
  %
}
\publishers{%
  \publishersSubstr\\\publishersSubSubstr\\\publishersSubSubSubstr%
}
```

Glossary and bibliography preambles

If the default text for the preamble to the *acronyms* and *abbreviations*, to the *terms* and *definitions*, or to the bibliography does not fit as expected, these preambles can be modified in `docstyle.sty`, starting near line 657 (see Listing 16) and near line 683 (see Listing 17).

Listing 16: Definition of the glossary preambles in `docstyle.sty`

```
657 \deftranslation[to=English]{Glossary}{Terms and Definitions}
660 \deftranslation[to=English]{Acronyms}{Acronyms and Abbreviations}
663 \setglossarypreamble[main]{%
664   The subsequent list collects special \emph{terms} and \emph{definitions} used \
        in the present document\p.%
665 }
668 \setglossarypreamble[acronym]{%
669   Below follows a list of \emph{acronyms} and \emph{abbreviations} used in the \
        present document\p.%
670 }
```

Listing 17: Definition of the bibliography preambles in `docstyle.sty`

```
\DefineBibliographyStrings{english}{%
  bibliography={Applicable and Reference Documents},
  references={Applicable and Reference Documents}%
}
\defbibnote{bibpreamble}{%
  The following documents are applicable to and\textfractionsolidus{}or \
       referenced by the present document\p.%
}
\defbibnote{refpreamble}{%
  The following documents are applicable to and\textfractionsolidus{}or \
       referenced by the present document\p.%
}
```

6.2.3 Tailoring the document specific elements of the title page

The layout of the document specific elements document title and authors are predefined in the file `docstyle.sty` and need to be updated in each individual document's masterfile by a block of redefining LaTeX commands which are to be added between the two already present commands `\makeatletter` and `\makeatother`, similar to the example given in Listing 18.

All other document specific elements required for the title page like document type, document identifiers, document issue, document revision, document release date etc., have already been described for the document headings in Subsection 6.2.1

Attention: In Listing 18, the definition of the document subtitle is not explicitly shown, as it is already presented in Listing 7 of Subsection 6.2.1 (due to the fact that `\subtitlePrefix` and `\ThisDocSubtitle` are used for the definition of the document headings).

Listing 18: Definition of document title and author details in the masterfile

```
\makeatletter
...
...
\renewcommand*{\ThisDocTitle}{%
  The \wegcLaTeX{} documentation framework: \newline a guide for beginners%
}
\renewcommand*{\titlePrefix}{%
  %
}
\renewcommand*{\ThisDocAuthors}{%
  \ShortName{kmf}, \ShortName{jfb}, and \ShortName{gki}%
}
\makeatother
```

6.2.4 Creating a multidoc document article

For creating a multidoc article, proceed as follows:

1. create a working directory for building the wegcLaTeX multidoc article,
   e.g. `/home/<user>/wlMultiDocTest/`

2. create the following subdirectories
   `/home/<user>/wlMultiDocTest/wlg/`,
   `/home/<user>/wlMultiDocTest/wlg/figs/`,
   `/home/<user>/wlMultiDocTest/wlg/data/`,
   `/home/<user>/wlMultiDocTest/wlg/tex/`,
   `/home/<user>/wlMultiDocTest/common/`, and
   `/home/<user>/wlMultiDocTest/common/figs`

   Attention: Any further documents of a multidoc documentation task would require the additional subdirectories
   `/home/<user>/wlMultiDocTest/wlg2/`,
   `/home/<user>/wlMultiDocTest/wlg2/figs/`,
   `/home/<user>/wlMultiDocTest/wlg2/data/`,
   `/home/<user>/wlMultiDocTest/wlg2/tex/`,
   and so on.

3. copy the LaTeX template master file
   `./texmf/doc/latex/wegc-latex/examples/multidoc-article/doc-article.tex` to
   `/home/<user>/wlMultiDocTest/wlg/`

4. copy the seven LaTeX source code files from
   `./texmf/doc/latex/wegc-latex/WLG/` to
   `/home/<user>/wlMultiDocTest/wlg/tex/`

5. copy the twelve `*.png` and twelve `*.xbb` files from
   `./texmf/doc/latex/wegc-latex/examples/common/figs/` to
   `/home/<user>/wlMultiDocTest/common/figs/`

6. copy the three files `docstyle.sty`, `project.sty`, and `commands.sty` from
   `./texmf/doc/latex/wegc-latex/examples/common/` to
   `/home/<user>/wlMultiDocTest/common`

7. extract the three example only files `acronyms.sty`, `addresses.sty`, and `terms.sty` from the compressed archive file
   `./texmf/doc/latex/wegc-latex/WLG/acronymsAddressesTerms_ExampleDoNotUse.tar.gz` or use the current and up to date versions available at `https://wegc203117.uni-graz.at/projects/latex_dbs/browser/arsclisys` and put them to
   `/home/<user>/wlMultiDocTest/common`

8. add the address for the fictive person “Karo Musterfrau” at the end of the copied file `addresses.sty`, as described in Subsection 4.2

9. add the acronym for the fictive company “The Muppet Company, Inc. (TMC)” at the end of the copied file `acronyms.sty`, as described in Subsection 4.3

10. add the glossary entry for the fictive term “Firlefanzation” at the end of the copied file `terms.sty`, as described in Subsection 4.4

11. create an example bibliography file `exampleBibFile.bib` in the `/home/<user>/wlMultiDocTest/wlg` directory in the same way as it is described for a singledoc article (see Subsection 6.1.1)

12. copy the template master file `/home/<user>/wlMultiDocTest/wlg/doc-wlarticle.tex` to `/home/<user>/wlMultiDocTest/wlg/md-wlgArticle.tex` and apply the following modifications:

    a) at line 119, change `DIV=default` to `DIV=11`

    b) between the lines 165 to 171, reading

```
\makeatletter
%% NOTE: Here, we can act as class and package authors if we want or need \
     to do so ...
\makeatother
```

    add the definition commands for defining the document specific settings:

```
\makeatletter

\renewcommand*{\ThisDocType}{%
  tr%
}
\renewcommand*{\ThisDocExtNum}{%
  03%
}
\renewcommand*{\ThisDocIntNum}{%
  37%
}
\renewcommand*{\ThisDocIssue}{%
  1%
}
\renewcommand*{\ThisDocRevision}{%
  3%
}
\renewcommand*{\subtitlePrefix}{%
  %
```

```
}
\renewcommand*{\ThisDocSubtitle}{%
  WLG Quickstart Guide%
}
\renewcommand*{\ThisDocHeaderTitleSubstr}{%
  \wegcLaTeX{}%
}
\renewcommand*{\ThisDocIdSubstr}{%
  \aces{wegc}-WLG-QSG%
}
\newdate{ThisDocDate}{13}{8}{2025}
\renewcommand*{\ThisDocDate}{%
  \displaydate{ThisDocDate}%
}
\renewcommand*{\ThisDocYear}{%
  %% \getdateyear{ThisDocDate}%
  2028%
}
\renewcommand*{\ThisDocTitle}{%
  The \wegcLaTeX{} documentation framework: \newline a guide for beginners%
}
\renewcommand*{\titlePrefix}{%
  %
}
\renewcommand*{\ThisDocAuthors}{%
  \ShortName{kmf}, \ShortName{jfb}, and \ShortName{gki}%
}
\makeatother
```

c) on lines 150 to 151: change from

```
\bibliography{%
}
```

to

```
\bibliography{%
  exampleBibFile%
}
```

d) between lines 165 and 171, reading

```
\makeatletter

%% NOTE: Here, we can act as class and package authors if we want or need \
     to do so ...
```

```
\makeatother
```

add the following command definitiosn for singledoc and multidoc:

```
\makeatletter

%% NOTE: Here, we can act as class and package authors if we want or need \
     to do so ...

\newcommand*{\singledoc}{%
  \entity{singledoc} %
}

\newcommand*{\multidoc}{%
  \entity{multidoc} %
}

\makeatother
```

e) between the lines 201 and 204, reading

```
\printbibliography[prenote=refpreamble]


\appendix
```

add the following content:

```
\printbibliography[prenote=refpreamble]

\nocite{Gorbunov2007a}
\nocite{Gorbunov2002a}
\nocite{Gorbunov1986}

\glsadd{development_team}
\glsadd{firlefanzation}

\glsadd{urd}
\glsadd{add}
\glsadd{ddd}
\glsadd{sum}
\glsadd{atr}

\include{WLG-1_introduction}
\include{WLG-2_installation}
\include{WLG-3_documentGeneration}
```

```
\include{WLG-4_commandsAndEnvironments}
\include{WLG-5_practicalTips}
\include{WLG-6_usingTheTemplates}
\include{WLG-7_undocumentedTopics}

\appendix
```

13. modify in the file `/home/<user>/wlMultiDocTest/common/docstyle.sty` the titlepage header, titlepage footer, titlehead, subject and publisher details as described in Subsection 6.2.2.

14. Finally, compile the master file `/home/<user>/wlMultiDocTest/wlg/md-wlgArticle.tex` as described in Subsection 3.1.

6.2.5 Creating a multidoc document report

For creating a multidoc report, copy the LaTeX template master file
`./texmf/doc/latex/wegc-latex/examples/multidoc-report/doc-report.tex` to
`/home/<user>/wlMultiDocTest/wlg/`,
copy the file
`/home/<user>/wlMultiDocTest/wlg/doc-wlreport.tex` to
`/home/<user>/wlMultiDocTest/wlg/md-wlgReport.tex`,
and perform all other steps similar to the description in Subsection 6.2.4, considering the following differences:

1. in file `/home/<user>/wlMultiDocTest/wlg/md-wlgReport.tex`,
   a) between the lines 213 and 216 (i.e. between the `\printbibliography` and `\appendix` commands), add the same LaTeX commands `\nocite`, `\glsadd` and `\include` as indicated in Subsection 6.2.4, Item 12e
   b) between the lines 213 and 216 (i.e. between the `\printbibliography` and `\appendix` commands and immediately after the added statements of Item 1a), add the definition of the Document Release Information table, the Document Distribution List and the Document Change Record, as shown in Listing 19

2. modify the document structuring directives `\section`, `\subsection` and `\subsubsection` used in the seven LaTeX files to `\chapter`, `\section` and `\subsection`, adapting it to the proper sectioning for report documents (similar to Subsection 6.1.2 Item 3).

3. Finally, compile the master file `/home/<user>/wlMultiDocTest/wlg/md-wlgReport.tex` as described in Subsection 3.1.

Listing 19: Definition of document release information, distribution list and change record

```
\renewcommand*{\ThisAuthorizationIdentity}{%
```

```
  \ShortName{mip}, \ugorg{short}%
}

\renewcommand*{\ThisApprovalIdentity}{%
  \ShortName{gki}, \ugorg{short}%
}

%% \renewcommand*{\ThisDocReleaseInformationTab}{%
%% \ifthenelse{\boolean{KOMAClass}}{\addsec*}{\section*}{Document Release Information}%
%% \begin{tabularx}{\linewidth}[b]{@{}D@{}}%
%%   \toprule%
%%   \docid                                        & \ThisDocId                   \\%
%%   Issue                                         & \ThisDocVersion              \\%
%%   Date                                          & \ThisDocDate                 \\%
%%   Prepared by                                   & \ThisDocAuthors              \\%
%%   Approved\textfractionsolidus{}Internally by & \ThisAuthorizationIdentity  \\%
%%   Approved\textfractionsolidus{}Externally by & \ThisApprovalIdentity       \\%
%%   \bottomrule%
%% \end{tabularx}%
%% }

\renewcommand*{\ThisDocDistributionList}{%
  \ShortName{gki}       &  \aces{wegc}/\aces{ug}    & \EmailAddress{gki}       & 1\\%
  \small\ShortName{jfb} &  \aces{wegc}/\aces{ug}    & \small\EmailAddress{jfb} & 1\\%
  \Name{mip}            &  \aces{wegc}/\aces{ug}    & \EmailAddress{mip}       & 1%
}

\renewcommand*{\ThisDocChangeRecord}{%
  \software{short}{Version}{1}{0}{}{} &%
  \formatdate{20}{04}{2007} &%
  Original version of the document\p. \\ %
  %%
  \software{short}{Version}{1}{2}{}{} &%
  \formatdate{21}{12}{2008} &%
  Updates throughout the document by minor \newline
  changes and editorial corrections for clarification\p. \\ %
  %%
  \software{short}{Version}{\ThisDocIssue}{\ThisDocRevision}{}{}  &%
  \ThisDocDate &%
  Correction of minor inconsistencies\p.%
}
```

6.2.6 Creating a multidoc document book

For creating a multidoc book, copy the LaTeX template master file `./texmf/doc/latex/wegc-latex/examples/multidoc-book/doc-wlbook.tex` to `/home/<user>/wlMultiDocTest/wlg/`, copy the file

/home/<user>/wlMultiDocTest/wlg/doc-wlbook.tex to
/home/<user>/wlMultiDocTest/wlg/md-wlgBook.tex and perform all other steps similar to the description in Subsection 6.2.4, considering the following differences:

1. in file /home/<user>/wlMultiDocTest/wlg/md-wlgBook.tex,
   a) between the lines 219 and 222 (i.e. between the \mainmatter and \appendix commands), add the same LaTeX commands \nocite, \glsadd and \include as indicated in Subsection 6.2.4, Item 12e
   b) between the lines 219 and 222 (i.e. between the \mainmatter and \appendix commands and immediately after the added statements of Item 1a), add the definition of the Document Release Information table, the Document Distribution List and the Document Change Record, as shown in Listing 19
2. modify the document structuring directives \section, \subsection and \subsubsection used in the seven LaTeX files to \chapter, \section and \subsection, adapting it to the proper sectioning for book documents (similar to Subsection 6.1.2 Item 3).
3. Finally, compile the master file
   /home/<user>/wlMultiDocTest/wlg/md-wlgBook.tex
   as described in Subsection 3.1.

7 Undocumented topics

Additionally, the following features are provided as an extension to the KOMA-Script bundle:

- `\rowstyle` and column types =, +
- column type D
- `\noacronymfont` (glossaries package)
- `\acrentryshort` (glossaries package) and similar commands + shortcuts

TODO Describe all packages loaded in wegcLaTeX: What are they for, basic functionality, basic commands.