# THE CNLTX BUNDLE

Documentation for LATEX  $2\varepsilon$  Packages or Classes

vo.5 2013/09/20

LATEX examples the CN way

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A bundle of packages and classes for consistent format of control sequences, package options, source code with examples, writing a package manual (including an index containing the explained control sequences, options, ...).

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### Part I.

### **About The Bundle**

### 1. Background

The CNLTX bundle contains different packages and classes. I developed it as a successor of my class cnpkgdoc that I used for writing the documentation of my packages. The intention behind this is a cleaner interface and less unnecessary ballast, hence the separation into packages and classes. The bundle provides source code environments that also print the output and defines quite a number of macros for formatting of control sequence names, package names, package options and so on.

Part of the motivation is also that users have asked me how I created the manuals for my packages. Now I can refer to this bundle.

Another reason for the splitting into separate packages is – besides the advantage of easier maintenance – is that I may want to add programming tools that I use often into <code>CNLTX-BASE</code> which may allow me (and others) to use them for other packages, too, without having to define them each time. So it is quite possible that <code>CNLTX-BASE</code> will get extended in the future.

The best documentation for the bundle as always is the source code of the sty and cls files but I'm trying to provide a documentation as comprehensive as possible. This is one of the reasons why this documentation is noticeably longer than the one for cnpkgdoc.

The bundle reflects the fact that I haven't started using literate programming, yet. I don't use docstrip and don't write dtx files but always write the sty or cls files directly. The manual is always created parallel but separately. While I'm entirely aware of the advantages of literate programming I never could bring myself to start to use it myself. As a consequence I have no idea if this bundle can be used for it or not.

Source code formatting is done with the help of the powerful listings package [HM13] by Carsten Heinz and later Brooks Moses, now maintained by Jobst Hoffmann. The only real drawback I have found with it is recognizing starred und un-starred versions of an environment as different keywords. This does not seem to be possible which is why indexing of such environments will lead to wrong page numbers.

The fancy frames of the source code examples are realized with the mdframed package[Dan13] by Marco Daniel, loaded with the option framemethod = tikz.

### 2. Bundled Packages, Classes and Files

The **CNLTX** bundle currently bundles the following packages and classes:

- CNLTX-BASE a package that defines base macros for error-messaging, expansion control and tokenlist manipulation. It also provides color definitions and defines a few color schemes for the CNLTX-DOC class. All other packages and classes of the CNLTX bundle load this package. This package can be used stand-alone.
- CNLTX-DOC a class for writing package manuals. Loads CNLTX-EXAMPLE and CNLTX-TOOLS.
- CNLTX-EXAMPLE a package that defines macros and environments for describing control sequences and options and for including source code. Loads CNLTX-LISTINGS. This package can be used stand-alone.
- Introduced in version 0.4
- CNLTX-LISTINGS a package that defines the listings language 'BibTeX'. Also defines a list of highlighted control sequence names and environment names, loaded by CNLTX-EXAMPLE. The additional control sequence and environment names used to be defined in CNLTX-CSNAMES. That package got removed and its contents are now provided by CNLTX-LISTINGS. This package can be used stand-alone.

Introduced in version 0.2

- CNLTX-TOOLS a package that defines tools used by CNLTX-DOC that are unrelated to LATEX documentation *per se*.
- cnltx.ist an index style file that is used when the option add-index is activated and the option index-style is not used.
- Introduced in version 0.4
- cnltx.bib a bibliography file that contains a small but growing number of package entries.

Introduced in version 0.4

• cnltx.bbx, cnltx.cbx and cnltx.dbx - files related to the biblatex style cnltx.

### 3. License and Requirements

Permission is granted to copy, distribute and/or modify this software under the terms of the LATEX Project Public License (LPPL), version 1.3 or later (http://www.latex-project.org/lppl.txt). The software has the status "maintained."

The CNLTX-BASE package loads the following packages: pgfopts<sup>1</sup> [Wri11], etoolbox<sup>2</sup> [Leh11], trimspaces<sup>3</sup> [Robo9] and xcolor<sup>4</sup> [Ker07].

The CNLTX-DOC class loads the package with the same name and additionally the following packages: CNLTX-BASE, CNLTX-EXAMPLE, translations [Nie13c], ulem<sup>5</sup> [Ars11], multicol<sup>6</sup> [Mit11], ragged2e<sup>7</sup> [Scho9], marginnote<sup>8</sup> [Koh12] and hyperref<sup>9</sup> [OR12]. It is a wrapper class for the KOMA-Script class scrartcl<sup>10</sup> [KN12].

The CNLTX-EXAMPLE package loads the following packages: CNLTX-BASE, CNLTX-LISTINGS, CNLTX-TOOLS, translations, 11 mdframed 12 [Dan13] and idxcmds 13 [Nie13b].

The CNLTX-LISTINGS package loads CNLTX-BASE and listings 14 [HM13].

The CNLTX-TOOLS package loads CNLTX-BASE and accsupp 15 [Obeo1].

Like all of my packages CNLTX implicitly relies on an up to date TeX distribution.

### Part II.

# Details of Available Commands, Environments and Options

### 4. Options and Setup

The **CNLTX** bundle has a number of options. The **CNLTX-DOC** class only knows a few options (described in section 9.1 on page 19) as *class* options. All other options regardless if they're

- ${\tt 1.\ on\ CTAN\ as\ pgfopts: http://mirrors.ctan.org/macros/latex/contrib/pgfopts/}$
- 2. on CTAN as etoolbox: http://mirrors.ctan.org/macros/latex/contrib/etoolbox/
- 3. on CTAN as trimspaces: http://mirrors.ctan.org/macros/latex/contrib/trimspaces/
- 4. on CTAN as xcolor: http://mirrors.ctan.org/macros/latex/contrib/xcolor/
- 5. on CTAN as ulem: http://mirrors.ctan.org/macros/latex/contrib/ulem/
- 6. on CTAN as multicol: http://mirrors.ctan.org/macros/latex/required/tools/multicol/
- 7. on CTAN as ragged2e: http://mirrors.ctan.org/macros/latex/contrib/ms/ragged2e/
- 8. on CTAN as marginnote: http://mirrors.ctan.org/macros/latex/contrib/marginnote/
- 9. on CTAN as hyperref: http://mirrors.ctan.org/macros/latex/contrib/hyperref/
- $10.\ on\ \mathtt{CTAN}\ as\ \mathsf{koma-script:}\ \mathsf{http://mirrors.ctan.org/macros/latex/contrib/koma-script/$
- 11. on CTAN as translations: http://mirrors.ctan.org/macros/latex/contrib/translations/
- 12. on CTAN as mdframed: http://mirrors.ctan.org/macros/latex/contrib/mdframed/
- 13. on CTAN as idxcmds: http://mirrors.ctan.org/macros/latex/contrib/idxcmds/
- 14. on CTAN as listings: http://mirrors.ctan.org/macros/latex/contrib/listings/
- 15. on CTAN as accsupp: http://mirrors.ctan.org/macros/latex/contrib/oberdiek/accsupp/

defined by a package or a class can and should be set with the setup command:

```
\setcnltx{\langle options \rangle} setup command for CNLTX.
```

The source code environments defined by the **CNLTX-EXAMPLE** package also have optional arguments that can be used to set the options for the environment locally.

### 5. Available Commands

### 5.1. Description of Macros, Environments and Options

provided by CNLTX-EXAMPLE The commands described in this section all are provided by the CNLTX package. They all are related to the typesetting of provided macros, options and the like.

```
\code{\langle arg \rangle}
```

Formatting of source code. This is *no* verbatim command. Used internally in the following commands.

```
\ensuremath{\mbox{verbcode}}\ensuremath{\mbox{delim}}\ensuremath{\mbox{\langle code}}\ensuremath{\mbox{\langle delim}}\ensuremath{\mbox{\rangle}}
```

Introduced in version 0.2

A verbatim command that uses the same formatting as the source code example environments. This is a wrapper for \lstinline which loads the corresponding style.

```
\cs*{\langle name \rangle}
```

Format the control sequence  $\langle name \rangle$ , \cs{name}: \name. Adds a corresponding index entry. The starred form does not add an index entry.

```
\csidx{\langle name \rangle}
```

Adds an index entry but does not typeset the control sequence  $\langle name \rangle$ .

```
\ensuremath{\mbox{env}*} \{\langle name \rangle\}
```

Format the environment  $\langle name \rangle$ , \env{name}: name. Adds a corresponding index entry with a hint that the entry refers to an environment. The starred form does not add an index entry.

```
\ensuremath{\mbox{envidx}} \langle name \rangle
```

Adds an index entry but does not typeset the environment  $\langle name \rangle$ .

```
\mbox{meta}\{\langle meta\rangle\}
```

Description of an argument,  $\mbox{meta}\{\mbox{meta}\}: \langle meta \rangle$ .

```
\marg{\langle arg \rangle}
```

A mandatory argument.  $\langle arg \rangle$  is formatted with \meta if it is not blank, \marg{arg}:  $\{\langle arg \rangle\}$ .

#### $\Marg{\langle arg \rangle}$

Introduced in version 0.2

A mandatory argument.  $\langle arg \rangle$  is formatted with \code if it is not blank, \Marg{arg}: {arg}.

```
\operatorname{oarg}\{\langle arg \rangle\}
```

An optional argument.  $\langle arg \rangle$  is formatted with \meta if it is not blank, \oarg{arg}:  $[\langle arg \rangle]$ .

```
\langle 0arg\{\langle arg \rangle\}
                     An optional argument. \langle arg \rangle is formatted with \code if it is not blank, \Oarg{arg}: [arg].
Introduced in
version 0.2
                  \langle arg \langle arg \rangle \}
                     An argument with parentheses as delimiters. \langle arg \rangle is formatted with \meta if it is not blank,
                     \operatorname{darg}\{\operatorname{arg}\}: (\langle \operatorname{arg}\rangle).
                  \Delta \{\langle arg \rangle\}
                     An argument with parentheses as delimiters. \langle arg \rangle is formatted with \code if it is not blank,
Introduced in
version o.2
                     \Darg{arg}: (arg).
                     An optional star argument, \sarg: *.
                  \operatorname{option} \{\langle name \rangle\}
                     An option \langle name \rangle, \option{name}: name. Adds a corresponding index entry. The starred form
                     does not add an index entry.
                  \operatorname{\operatorname{Noptionidx}} \langle name \rangle
                     Adds an index entry but does not typeset the option \langle name \rangle.
                  \mbox{\mbox{module}*} \{\langle name \rangle\}
                     A module (name), \module{name}: name. Adds a corresponding index entry. The starred form
                     does not add an index entry. In some of my package I like to organize options by grouping them
                     in different classes that I call "modules". This command refers to those modules.
                  \mbox{moduleidx}*\{\langle name \rangle\}
                     Adds an index entry but does not typeset the option \langle name \rangle.
                  \key* - {\langle name \rangle} {\langle value \rangle}
                     A key \langle name \rangle with value \langle value \rangle, the optional star prevents an index entry, the optional - strips
                     the braces around \langle value \rangle; \key{key}{value}: key = {\langle value \rangle}; \key-{key}{value}: key =
                     ⟨value⟩
                  \langle \text{keyis} * \{\langle name \rangle\} \{\langle value \rangle\}
                     A key \langle name \rangle set to value \langle value \rangle, the optional star prevents an index entry, \langle key \} {value}:
Introduced in
version 0.2
                     key = value.
                  \choices{\langle clist of choices\rangle}
                     A list of choices, \choices {one, two, three}: one | two | three
                  \choicekey{\langle name \rangle} {\langle clist \ of \ choices \rangle}
                     A key \langle name \rangle with a list of possible values, \choicekey\{key\}\{one,two,three\}: key = one |
                     two|three
                  \boolkey{\langle name \rangle}
                     A boolean key \langle name \rangle with choices true and false, \boolkey{key}: key = \underline{\text{true}}|false
                  \default{\langle value \rangle}
                     Markup for a default choice, \choices {one, \default {two}, three}: one | two | three
```

### 5.2. Versioning Commands, Licensing and Related Stuff

### provided by CNLTX-DOC

The commands described in this section are provided by the CNLTX class except where indicated differently. These commands are related to information about the legal stuff of a package and where to find it on th world wide web.

### \sinceversion{\langle version \rangle}

Introduced in version o.o

Gives a sidenote like the one on the left.

### $\changedversion{\langle version \rangle}$

Changed in version o.o

Gives a sidenote like the one on the left.

```
\newnote*{\langle cs \rangle}[\langle num \rangle]{\langle definition \rangle}
```

Defines a note like \sinceversion. The star makes the note macro short,  $\langle num \rangle$  defines the number of mandatory arguments. Optional arguments are not possible. \sinceversion was defined as follows: \newnote\*\sinceversion[1]{Introduced in version~#1}

```
\newpackagename{\langle cs \rangle} {\langle name \rangle}
```

Define a comand  $\langle cs \rangle$  that prints  $\langle name \rangle$  formatted like CNLTX.

```
\newname{\langle cs \rangle}{\langle first name \rangle}{\langle second name \rangle}
```

provided by CNLTX-TOOLS

version o.2

Defines  $\langle cs \rangle$  to write out the full name and add an index entry sorted by the last name. Also defines a starred variant of  $\langle cs \rangle$  that only writes the last name but still adds the full index entry.

### \lppl

Typesets "LPPL" and adds a corresponding index entry.

Typesets "LATEX Project Public License" and adds a the same index entry as \lppl.

### 

Default: maintained

Changed in Typesets 'Permission is granted to copy, distribute and/or modify this software under the terms of the LATEX Project Public License (LPPL), version 1.3 or later (http://www.latex-project. org/lppl.txt). The software has the status "maintained.". The un-starred variant adds a \par.

### \ctan

Typesets "CTAN" and adds a corresponding index entry.

#### **\CTAN**

Typesets "Comprehensive TrX Archive Network" and adds the same index entry as \ctan.

### $\color{order} \color{order} \color{order}$

provided by CNLTX-TOOLS

Typesets  $\langle acronym \rangle$  with small caps and uses  $\langle pdf \ and \ sort \ string \rangle$  as PDF string and for sorting the index entry that is added. This command was used to define \lppl and \ctan. This is not intended as a replacement for packages like acro [Nie13a] or glossaries[Tal13]! In fact it is a "poor man's" solution that allows me not to require one of those packages.

### 5. Available Commands

```
\protect\operatorname{pkg} \{\langle package \rangle\}
                   Format the package name \(\langle package \rangle\) and add an index entry. The starred variant adds nothing
provided
by CNLTX-
                   to the index.
EXAMPLE
                \pkgidx{\package\}
                   Add an index entry for the package \langle package \rangle.
provided
by CNLTX-
                \cls*{\langle class \rangle}
EXAMPLE
provided
                   Format the class name (class) and add an index entry. The starred variant adds nothing to the
by CNLTX-
                   index.
EXAMPLE
                \clsidx{\langle class\}
                   Add an index entry for the class \langle class \rangle.
provided
by CNLTX-
                \CTANurl[\langle directory \rangle] \{\langle name \rangle\}
EXAMPLE
                   Writes a CTAN link like the ones in section 3 on page 4 in the footnotes. The predefined directory
                   is macros/latex/contrib. The link address will be:
                   http://mirrors.ctan.org/\langle directory \rangle / \langle name \rangle /.
                \needpackage[\langle directory \rangle] \{\langle name \rangle\}
                   A wrapper for \pkg{#2}\footnote{\CTANurl[#1]{#2}}
Introduced in
version 0.2
                \needclass[\langle directory \rangle] \{\langle name \rangle\}
                   A wrapper for \cls{#2}\footnote{\CTANurl[#1]{#2}}
Introduced in
version 0.2
                          1 \newpackagename{\foothree}{foo-3}%
                         2 now \foothree\ looks like \cnltx.
```

```
1 \newpackagename{\foothree}{foo-3}%
2 now \foothree\ looks like \cnltx.
3
4 \newname\carlisle{David}{Carlisle}%
5 \carlisle\ is a well-known member of the \LaTeX\ community. \carlisle* is 6 the author of many packages such as \pkg*{longtable}.
```

now foo-3 looks like CNLTX.

David Carlisle is a well-known member of the LATEX community. Carlisle is the author of many packages such as longtable.

### 5.3. Input Source Code Files

Similar to the environments described in section 6.2 on page 10 CNLTX-EXAMPLE provides a few commands for inputting source code files, formatting and printing the source code and inputting the file directly.

```
\input example [\langle options \rangle] {\langle file name \rangle}
```

The equivalent of the example environment, see section 6.2 on page 10.

```
\inputsidebyside[\langle options \rangle] \{\langle file name \rangle \}
```

The equivalent of the sidebyside environment, see section 6.2 on the following page.

The equivalent of the sourcecode environment, see section 6.2 on the next page.

```
\ightharpoonup \label{eq:continuous} \labe
```

A wrapper for \lstinputlisting[style=cnltx,#1]{#2}

It is possible to define further commands like this:

```
\newinputsourcefilecmd[\langle option \rangle] \{\langle control sequence \rangle\}
```

Defines *(control sequence)* as a new source code input command where *(options)* are preset.

The existing commands have been defined like this:

```
newinputsourcefilecmd\inputexample
```

- 2 \newinputsourcefilecmd[side-by-side]\inputsidebyside
- 3 \newinputsourcefilecmd[code-only]\inputsourcecode

### 6. Available Environments

### **6.1.** Description Environments

**CNLTX-DOC** defines some description environments used to describe macros, environments or options.

### \begin{commands}

Introduced in version 0.5

A description-like environment for describing commands. While this environment is a list internally and thus recognizes \item own commands are used to describe macros. They are explained in section 7.1 on page 11.

### \begin{options}

A description-like environment for describing options. While this environment is a list internally and thus recognizes \item own commands are used to describe options. They are explained in section 7.2 on page 12.

### \begin{environments}

A description-like environment for describing environments. While this environment is a list internally and thus recognizes \item own commands are used to describe environments. They are explained in section 7.3 on page 14.

These environments are lists all using the same internal **\list**. The setup of this list can be changed via an option:

```
list-setup = \{\langle definitions \rangle\}
```

 $Default: \verb|\label| width=2em \label| sep=0pt \label| itemindent=-1em \\ The setup of the \verb|\list| used by the commands, options and environments environments.$ 

### 6.2. Source code Environments

**CNLTX-EXAMPLE** defines the following environments that are used to display source code and possibly the output of the source code, too.

```
\begin{example} [\langle options \rangle]
```

This environment is a formatted verbatim environment that also inputs the output of the inputted code. This environment is described in section 7.4 on page 15.

```
\begin{sidebyside}[\langle options \rangle]
```

This environment is a formatted verbatim environment that also inputs the output of the inputted code. Source and output are printed side-by-side. This environment is described in section 7.4 on page 15.

```
\begin{sourcecode}[\langle options \rangle]
```

This environment is a formatted verbatim environment. This environment is described in section 7.4 on page 15.

Introduced in version 0.2

In each of these environments certain hooks are provided that can be used to add definitions you like:

```
pre-code = {\langle definitions\rangle }
  \langle definitions\rangle are placed before the source code is inserted.

after-code = {\langle definitions\rangle }
  \langle definitions\rangle are placed after the source code is inserted.

pre-source = {\langle definitions\rangle }
  \langle definitions\rangle are placed before the output of the source code is inserted.

after-source = {\langle definitions\rangle }
  \langle definitions\rangle are placed after the output of the source code is inserted.
```

It is possible to define further environments like this:

```
\newsourcecodeenv[\langle option \rangle] \{\langle name \rangle\}
```

Defines  $\langle name \rangle$  as a new source code environment where  $\langle options \rangle$  are preset.

The existing environments have been defined like this:

```
1 \newsourcecodeenv{example}
2 \newsourcecodeenv[side-by-side]{sidebyside}
3 \newsourcecodeenv[code-only]{sourcecode}
```

### 7. Usage

### 7.1. Command Descriptions

Inside of the environment commands that was introduced in section 6.1 on page 9 items are input via the following command:

```
\command*{\langle name \rangle} [\langle stuff after \rangle]
```

This macro formats a control sequence with \cs and puts a line break after it. The optional argument allows printing things directly after the command name and can thus be used for adding arguments.

```
\Default*!{\langle code \rangle}
```

Changed in version 0.3

This command can be placed after \command or \option in order to give a default definition of a macro or a default value of an option. The definition will then be placed on the same line flush right. The star prevents the insertion of \newline after it. The optional bang adds the information that an option is mandatory, i.e., it has to be set.

#### \expandable

Introduced in version 0.5

Adds the symbol \* to the left of a command in the margin to indicate that the command is expandable. This command should be used immediately before \command.

### \unexpandable

Introduced in version 0.5

Adds the symbol \* to the left of a command in the margin to indicate that the command is not expandable. This command should be used immediately before \command.

#### \expandablesign

Default: \textasteriskcentered

Introduced in version 0.5

The macro that holds the sign used by \expandable and \unexpandable.

```
1 \begin{commands}
    \command{cs}
      This is about foo bar baz.
    \command{cs}[\marg{arg}]
      This one has an argument.
    \command{cs}[\sarg\oarg{option}]
      This has a star variant and an optional argument.
    \command{cs}\Default{foo bar}
      This one has the default replacement text \code{foo bar}
    \expandable\command{cs}
      This macro is expandable.
12 \end{commands}
```

This is about foo bar baz.

 $\cs{\langle arg \rangle}$ 

This one has an argument.

 $\csin (option)$ 

This has a star variant and an optional argument.

\cs Default: foo bar

This one has the default replacement text foo bar

· \c

This macro is expandable.

The \expandablesign can of course be redefined to something else you like better. For the sake of completeness there is an option that does exactly this:

expandable-sign =  $\{\langle definition \rangle\}$ 

Default: \textasteriskcentered

Introduced in version 0.5

Redefines \expandablesign to  $\langle definition \rangle$ .

### 7.2. Option Descriptions

The options environment knows a few more commands to meet all the different kinds of options.

\opt\*

An option. The star prevents an index entry.

```
\keyval*-\{\langle key\rangle\}\{\langle value\rangle\}
```

A key/value option. The optional star prevents an index entry. The optional - strips the braces around  $\langle value \rangle$ , see the example below.

```
\keychoice*{\langle key \rangle}{\langle list\ of\ choices \rangle}
```

A key/value option where the value is one of a list of choices. The star prevents an index entry.

```
\keybool*{\langle name \rangle}
```

A boolean key, that ist a choice key with choices true and false. The star prevents an index entry.

\Default\*!{\langle code \rangle}

Changed in version 0.3

This command can be placed after \command or \option in order to give a default definition of a macro or a default value of an option. The definition will then be placed on the same line flush right. The star prevents the insertion of \newline after it. The optional bang adds the information that an option is mandatory, *i.e.*, it has to be set.

 $\Module*!\{\langle name \rangle\}$ 

Introduced in version 0.3

This command can be placed after **\option** but before **\Default** in order to determine the module the option belongs to. It will be written in the left margin next to the option name. The star prevents the insertion of **\newline** after it. The optional bang *adds* an index entry for the module. This is somehow inconsistent with many of the other commands where an optional

star *prevents* an index entry but it fits to the functionality of \Default which is why this syntax was chosen.

The following demonstrates how the commands would be used to create option descriptions:

```
1 \begin{options}
    \opt{foo}
      This makes stuff. Let's add a few more words so that the line gets
      filled and we can see how the output actually looks.
    \opt*{foo}\Default{bar}
     This makes stuff. Let's add a few more words so that the line gets
      filled and we can see how the output actually looks.
   \opt{foo}\Module{bar}
      This option belongs to \module*{bar}. Let's add a few more words so
      that the line gets filled and we can see how the output actually
10
    \opt{foo}\Module{bar}\Default{baz}
      This option belongs to \module*{bar}. Let's add a few more words so
13
      that the line gets filled and we can see how the output actually
      looks.
    \keyval{foo}{bar}\Default
     This makes stuff. Let's add a few more words so that the line gets
17
      filled and we can see how the output actually looks.
18
    \keyval{foo}{bar}\Default!
      This makes stuff. Let's add a few more words so that the line gets
      filled and we can see how the output actually looks.
   \keyval*{foo}{bar}
     This makes stuff. Let's add a few more words so that the line gets
      filled and we can see how the output actually looks.
    \keyval-{foo}{bar}
      This makes stuff. Let's add a few more words so that the line gets
      filled and we can see how the output actually looks.
    \keychoice{foo}{one,two,three}
      This makes stuff. Let's add a few more words so that the line gets
      filled and we can see how the output actually looks.
    \keybool{foo}
      This makes stuff. Let's add a few more words so that the line gets
      filled and we can see how the output actually looks.
34 \end{options}
```

The code above gives the following output:

#### foo

This makes stuff. Let's add a few more words so that the line gets filled and we can see how the output actually looks.

foo Default: bar

This makes stuff. Let's add a few more words so that the line gets filled and we can see how the

output actually looks.

#### bar »foo

This option belongs to the module bar. Let's add a few more words so that the line gets filled and we can see how the output actually looks.

bar »foo Default: baz

This option belongs to the module bar. Let's add a few more words so that the line gets filled and we can see how the output actually looks.

 $foo = \{\langle bar \rangle\}$  (initially empty)

This makes stuff. Let's add a few more words so that the line gets filled and we can see how the output actually looks.

 $foo = \{\langle bar \rangle\}$  (required)

This makes stuff. Let's add a few more words so that the line gets filled and we can see how the output actually looks.

 $foo = \{\langle bar \rangle\}$ 

This makes stuff. Let's add a few more words so that the line gets filled and we can see how the output actually looks.

 $foo = \langle bar \rangle$ 

This makes stuff. Let's add a few more words so that the line gets filled and we can see how the output actually looks.

foo = one|two|three

This makes stuff. Let's add a few more words so that the line gets filled and we can see how the output actually looks.

foo = true|false

This makes stuff. Let's add a few more words so that the line gets filled and we can see how the output actually looks.

### 7.3. Environment Descriptions

Environment descriptions are made – unsurprisingly – with the environments environment. It knows the command \environment:

 $\ensuremath{\mbox{environment}} \{\langle name \rangle\} [\langle stuff after \rangle]$ 

This macro prints the environment name and puts a line break after it. The optional argument allows printing things directly after the environment name and can thus be used for adding arguments.

```
begin{environments}
    \_____ \begin{environment*{foobar}[\oarg{options}]
    This is environment \env*{foobar}. The star prevents it from being
    added to the index.
    \_____ \end{environments}

\begin{foobar}[\langle options \rangle]
    This is environment foobar. The star prevents it from being added to the index.
```

### 7.4. Example Code

Example code can be included through the example environment or the sourcecode environment.

```
1 \begin{example}
2 a \LaTeX\ code example
3 \end{example}
```

This example would give:

```
a LATEX code example
```

Both environments can be influenced by options:

```
code-only = true|false
```

Only typeset the code as code but don't include it afterwards. The code box above is an example for the usage of this option. This option has no effect on the sourcecode environment: this is already what that environment does.

```
side-by-side = true|false
```

Default: false

Default: false

Typeset source and output side by side. The code is input on the left and the output on the right. Side by side examples are typeset in minipage environments with all consequences that come with them (think of \parindent, page breaks ...).

```
code-left = true|false
```

Default: true

If true and the option side-by-side is chosen the source code is printed on the right side else on the left.

```
code-sep = \{\langle definition \rangle\}
```

Default: \hrulefill

Code that is inserted between a source code and the corresponding output when printed below each other.

The same example again, this time using side-by-side (which is the same as using the sidebyside environment):

```
1 a \LaTeX\ code example
```

a LATEX code example

side-by-side and code-left = false:

```
a LATEX code example
```

1 a **\LaTeX\** code example

The frame around the examples is done by the mdframed package [Dan13]. It is of course possible to customize it:

```
add-frame-options = \{\langle mdframed \ options \rangle\}
```

(initially empty)

Add options to the predefined ones.

```
frame-options = \{\langle mdframed\ options\rangle\}
```

 $\label{lem:default:backgroundcolor=cnltxbg,linecolor=cnltx,roundcorner=5pt} Default: backgroundcolor=cnltxbg, linecolor=cnltx, roundcorner=5pt Overwrite the options with new ones.$ 

The source code is formatted using the listings package [HM13]. Similar options exist to adapt listings' options that are used for formatting the source code. The predifined style has many options that will not be mentioned here. If you're interested you can find them in cnltx-listings.sty or in section B on page 37.

```
gobble = \langle integer \rangle
```

Default: 2

The number of initial characters that is gobbled from each line.

```
add-cmds = \{\langle list \ of \ csnames \rangle\}
```

(initially empty)

A list of control sequence names that should be recognized as a command sequence in the source code examples and should be formatted accordingly. The control sequence names in this list will also get an index entry when they're used in the source example. This is done internally via \csidx. The option should be used to add the new commands that are defined by the package for which you are writing the manual for.

```
add-silent-cmds = {\langle list \ of \ csnames \rangle}
```

A list of control sequence names that should be recognized as a command sequence in the source code examples and should be formatted accordingly. The control sequence names in this list will *not* get an index entry when they're used in the source example. There already is quite a large but far from comprehensive list of silent commands but many are still missing. This option allows you to extend the list on a per document basis.

```
add-listings-options = {⟨listings options⟩}
```

(initially empty)

Additional options for the listings [HM13] environments. This redefines the cnltx listings style and this effects all sourcecode environments!

```
listings-options = \{\langle listings \ options \rangle\}
```

Overwrite existing options with new ones. This can be used to build an own style from scratch. This redefines the cnltx listings style and this effects all sourcecode environments!

```
sourcecode-options = \{\langle listings \ options \rangle\}
```

Introduced in version 0.4

These options are added to the listings options of the source code environments without redefing the main style. Hence it can be used to locally add options to a source code environment.

```
add-envs = {\langle list of environment names\rangle}
Like add-cmds but for environment names.

add-silent-envs = {\langle list of environment names\rangle}
Like add-silent-cmds but for environment names.
```

### 7.5. Example File

Let's say you're documenting a package called mypackage that provides the command \mycommand and the environment myenv. The basic manual setup could then look something like this:

```
1 \documentclass[load-preamble]{cnltx-doc}
2 \usepackage[T1]{fontenc}
3 \usepackage[utf8]{inputenc}
4 \setcnltx{
5  package = mypackage ,
6  authors = John Doe ,
7  email = john@doe.com ,
8  add-cmds = {mycommand} ,
9  add-envs = {myenv}
10 }
11 \begin{document}
12  ...
13 \end{document}
```

### 8. Formatting Possibilities

One of the goals I wanted to achieve with this package is a consistent look and an easy interface for customization. No font choice and no color choice is fixed. In this section ways to change the formatting are shown.

The formatting of the different commands provided by CNLTX and various other properties can be changed in two ways: either by redefining the internal commands that are used for

the formatting or by setting a corresponding option. Both variants are described in the next subsections.

How the colors should be changed is described in section 12 on page 29.

### 8.1. Formatting by Redefining Hooks

You can change the formatting by redefining the following commands. They're all defined by the CNLTX-EXAMPLE package except where indicated differently.

\codefont Default: \ttfamily

This command is used for all formatting of source code.

\sourceformat Default: \codefont\small

Formatting of the listings.

\exampleformat (initially empty)

Special formatting of the output of a listing.

\versionnoteformat Default: \footnotesize\sffamily\RaggedRight

Formatting of the notes introduced in section 5.2 on page 7.

\packageformat Default: \sffamily

The formatting of package names.

\classformat Default: \sffamily

The formatting of class names.

\argumentformat Default: \normalfont\itshape

The formatting of  $\mbox{meta}\{\langle meta\rangle\}$ .

1 \renewcommand\*\codefont{\sffamily\bfseries}

2 \code{foo} and \cs\*{bar}, option \option{baz}

foo and \bar, option baz

### 8.2. Formatting by Setting Options

You can change the formatting of by setting the following options. They're all defined by the **CNLTX-EXAMPLE** package except where indicated differently.

```
title-format = \{\langle definition \rangle\}
Default: \bfseries\scshape
```

Introduced in version 0.2

provided by CNLTX-DOC

Formatting of the document title.

```
caption-font = \{\langle definition \rangle\}
                                                              Default: \normalfont\small\sffamily
  This option only has any effect if you use the option load-preamble, see section 9.5 on page 22
  for details on the option.
caption-label-font = \{\langle definition \rangle\}
                                                    Default: \normalfont\small\sffamily\scshape
  This option only has any effect if you use the option load-preamble, see section 9.5 on page 22
  for details on the option.
code-font = \{\langle definition \rangle\}
                                                                                     Default: \ttfamily
   Used for all formatting of source code.
source-format = \{\langle definition \rangle\}
                                                                             Default: \codefont\small
  Formatting of the listings.
expl-format = \{\langle definition \rangle\}
                                                                                         (initially empty)
  Special formatting of the output of a listing.
version-note-format = \{\langle definition \rangle\}
                                                    Default: \footnotesize\sffamily\RaggedRight
  Formatting of the notes introduced in section 5.2 on page 7.
acronym-format = \{\langle definition \rangle\}
                                                                                      Default: \scshape
  Formatting of the acronyms as typeset with \cnltxacronym.
pkg-format = \{\langle definition \rangle\}
                                                                                     Default: \sffamily
  The formatting of package names.
cls-format = \{\langle definition \rangle\}
                                                                                     Default: \sffamily
  The formatting of class names.
arg-format = \{\langle definition \rangle\}
                                                                        Default: \normalfont\itshape
  The formatting of \mbox{meta}\{\langle meta\rangle\}.
default-format = \{\langle code \rangle\}
                                                                                         Default: \uline
  The formatting of \default's argument. \langle code \rangle's last macro should take one argument.
        \setcnltx{code-font=\sffamily\itshape}
        2 \code{foo} and \cs*{bar}, option \option{baz}
          foo and \bar, option baz
```

### 9.1. Using Class Options

provided by CNLTX-DOC

provided by CNLTX-TOOLS

Introduced in version 0.2

The CNLTX-DOC class only knows a few options:

load-preamble = true|false

Default: false

See section 9.5 on page 22 for details.

load-preamble+ = true|false

Default: false

See section 9.6 on page 23 for details.

add-index = true|false

Default: false

See section 9.6 on page 23 for details.

 $babel-options = \{\langle options \rangle\}$ 

Default: english

Options given to the babel 16 package. This option only has an effect if load-preamble = true.

 $scrartcl = \{\langle options \rangle\}$ 

(initially empty)

Options that are passed to the underlying class scrartcl. *All global options you want to use should be given here.* 

### 9.2. Information on the Described Package or Class

A manual for a package or a class needs some information on the described package like the package name, the version number, the date and so on. This information is given with the following options. They are used to build the title page of the manual.

```
package = \{\langle package \rangle\}
```

The name of the package that is described. Either this option or class or name should always be given. This command also defines a command sequence from the package name that formats the package name with color and small caps like CNLTX.

```
class = \{\langle class \rangle\}
```

The name of the class that is described. Either this option or package or name should always be given. This command also defines a command sequence from the class name that formats the class name with color and small caps like CNLTX.

```
name = \{\langle name \rangle\}
```

The name of the class/package that is described. Either this option or package or class should always be given. This command also defines a command sequence from the class name that formats the class name with color and small caps like CNLTX.

```
authors = \{\langle author \, list \rangle\}
```

Changed in version 0.4

Comma separated list of package/class authors. After each author name you can add an email address by writing it in square brackets: Some Name[some@name.com]. Email addresses specified this way get written as a footnote.

```
version = \{\langle version \ number \rangle\}
```

Version number of the package/class. CNLTX tries to extract the information from the given package or class. This option can be used to set it explicitly.

<sup>16.</sup> on CTAN as babel: http://mirrors.ctan.org/macros/latex/required/babel/

```
date = \{\langle date \rangle\}
```

Date of the package/class. CNLTX tries to extract the information from the given package or class. This option can be used to set it explicitly.

```
info = {\langle package/class info \rangle}
```

Information about the package/class. CNLTX tries to extract the information from the given package or class. This option can be used to set it explicitly.

```
subtitle = \{\langle subtitle \rangle\}
```

A subtitle that is typeset *instead* of the package/class info.

```
url = \{\langle url \rangle\}
```

The homepage of the package.

```
email = \{\langle email \rangle\}
```

A contact email address.

```
abstract = \{\langle abstract \rangle\}
```

An abstract of the package/class/manual. This is text typeset in a box of .75\\\text{linewidth}. Actually it does not have to be text but could be an image or whatever you like.

### 9.3. Building of the Manuals Title Page

If either the package or class has been given an automatic title page is built using the gathered information. Figure 1 on the following page roughly sketches which informations is used and how the different elements are arranged on the title page. The page style of the title page is plain. Additionally a table of contents is automatically built that is set in two columns. The automatic building of the title page can be prevented by explicitly setting the following option:

```
build-title = true|false
```

The default state depends on other options given like package. However, setting this option to false *after* any of the options described in section 9.2 on the previous page will prevent the building of a title page and allows you to design your own.

### 9.4. A Quotation Environment

Introduced in version 0.5

**CNLTX-DOC** provides a quotation environment:

```
\begin{cnltxquote}[⟨author/reference⟩]
```

A quotation environment.

The environment sets the body indented on both sides as it simply uses a quote environment internally. The contents of the optional argument is set flush right after the environment's body. The formatting is controlled by two options:

```
quote-format = \{\langle definition \rangle\}
```

The formatting of the environment's body.

package name formatted with \titleformat and scaled to 1.5 of its size

subtitle

version

date

package information

author names (formatted according to specifications for names as defined with \newname)

url when specified via the url option

email address when specified via the email option

abstract when specified via the abstract option

FIGURE 1: Schematic sketch of the title page.

quote-author-format =  $\{\langle definition \rangle\}$ 

"The first ten million years were the worst," said Marvin, "and the second ten million years, they were the worst too. The third ten million years I didn't enjoy at all. After that I went into a bit of a decline."

Douglas Adams, The Restaurant at the End of the Universe

Default: \itshape

### 9.5. Predefined Preamble

It is possible to load a part of my standard preamble automatically by passing an option as class option.

### load-preamble

Class option that preloads part of my custom preamble.

Using the option will include the following code:

```
1 \RequirePackage{ifxetex,ifluatex}
2 \ifboolexpr{not bool{xetex} and not bool{luatex}}
    {\RequirePackage[T1]{fontenc}}
    {\RequirePackage{fontspec}}
5 \RequirePackage[oldstyle]{libertine}
6% 'libertinehologopatch' is not on CTAN, yet!
7 % you can get it at https://bitbucket.org/cgnieder/libertinehologopatch/
8 \RequirePackage{libertinehologopatch}
9 \RequirePackage[supstfm=libertinesups]{superiors}
10 \RequirePackage{microtype}
11 % activate my microtype settings for tracking of small caps
12 % with \microtypesetup{tracking=scshape}
13 % needs files from https://bitbucket.org/cgnieder/microtype-config/
14 \ifboolexpr{not bool{xetex} and not bool{luatex}}
    {\RequirePackage[scaled=.79]{beramono}}
    {\setmonofont[Scale=MatchLowercase]{Bitstream Vera Sans Mono}}
17 \RequirePackage{fnpct}
18 \expandafter\RequirePackage\expandafter[\cnltx@babel@options]{babel}
19 \renewcommand*\othersectionlevelsformat[3]{%
   \textcolor{cnltx}{#3\autodot}\enskip}
21 \renewcommand*\partformat{%
   \textcolor{cnltx}{\partname~\thepart\autodot}}
_{23} \deffootnote{2em}{1em}{\lap{\thefootnotemark. }}\%
24 \pagestyle{headings}
25 \setcapindent{1.5em}
26 \setkomafont{caption}{\cnltx@caption@font}
27 \setkomafont{captionlabel}{\cnltx@captionlabel@font}
```

The effect of this preamble is demonstrated by the document you're reading at this moment.

### 9.6. Predefined Indexing

CNLTX-DOC allows the automated creation of an index. This is done with the help of the imakeidx package by Enrico Gregorio [Gre13]. To use this feature you have two class options. They cannot be set with \setcnltx but must be given as class options.

```
add-index = true|false
```

Default: false

Enables the automatic creation of an index at the end of the document.

```
load-preamble+ = true|false
```

Default: false

This option has the same effect as adding the options load-preamble, add-index and add-bib.

Enabling the feature

• loads the imakeidx17 package,

<sup>17.</sup> on CTAN as imakeidx: http://mirrors.ctan.org/macros/latex/contrib/imakeidx/

- 9. Commands, Options and Further Settings Directly Related to the CNLTX-DOC Class
- uses a given style file for the index that can be specified with the index-style option,
- sets a certain setup for the index that can be specified with the index-setup option and
- adds an index at the end of the document.

The following options are available to customize the appearance of the index:

```
index-prologue = \{\langle text \rangle\}
```

Adds  $\langle text \rangle$  as index prologue between heading and the actual index.

```
index-space = \{\langle dimension \rangle\}
```

Default: 0pt

The vertical space between index prologue and index.

```
index-setup = {\langle options \rangle}
```

Default: othercode=\footnotesize,level=\addsec

The options that are passed to imakeidx's \indexsetup command.

```
makeindex-setup = \{\langle options \rangle\}
```

Default: columns=2,columnsep=1em

The options that are passed to the \makeindex command.

```
index-style = {\langle style file \rangle}
```

Default: cnltx.ist

The style file that is used for formatting the index.

The index style file cnltx.ist contains the following lines:

```
heading_prefix "{\\bfseries "
heading_suffix "\\hfil}\\nopagebreak\n"
headings_flag 1
delim_0 "\\dotfill"
delim_1 "\\dotfill"
delim_2 "\\dotfill"
delim_r "\\nohyperpage{\\textendash}"
delim_t ""
suffix_2p "\\nohyperpage{\\,\\GetTranslation{cnltx-f.}\\@}"
suffix_3p "\\nohyperpage{\\,\\GetTranslation{cnltx-ff.}\\\@}"
```

The feature is demonstrated by this document which does not contain a single control sequence containing the string index!

### 9.7. Bibliography with biblatex

### 9.7.1. A Bibliography Entry Type package for biblatex

Introduced in version 0.4

CNLTX-DOC defines a bibliograpy entry type package when biblatex [Leh13] is used. This allows specifying LATEX packages in bib files:

```
1 @package{pkg:chngcntr,
2  title = {chngcntr},
3  author = {Peter Wilson},
4  maintainer = {Will Robertson},
5  date = {2009-09-02},
6  version = {1.0a},
7  url = {http://mirror.ctan.org/macros/latex/contrib/chngcntr}
8 }
```

As you can see also an entry field maintainer is defined. For this to work you have to use the biblatex bibliography style cnltx. This style basically is a clone of the style alphabetic but defines the necessary additions for the package entry type and the maintainer entry field. Along with the bibliography style a citation style cnltx is provided, again a clone of the alphabetic style. The only addition it makes is that indexing of maintainer names is enabled if biblatex's indexing option is used. The styles can only be used with the CNLTX-DOC class as it relies on definitions made by it.

This document uses the following call of biblatex:

```
1 \usepackage[
2 backend=biber,
3 style=cnltx,
4 sortlocale=en_EN,
5 indexing=cite,
6 useprefix]{biblatex}
7 \addbibresource{cnltx.bib}
```

Actually it let's CNLTX-DOC do it, see section 9.7.2 for details.

Just for the sake of the example I am going to cite the chngcntr package now [Wilo9] so you can see both the bibliography entry and the indexed names of package, author and maintainer in the appendix.

### 9.7.2. Automatic Bibliography

**CNLTX-DOC** allows the automated creation of a bibliography.

```
add-bib = true|false
Default: false
```

Enables the automatic creation of a bibliography at the end of the document.

```
load-preamble+ = true|false
Default: false
```

This option has the same effect as adding the options load-preamble, add-index and add-bib.

What this options does is including the following code:

```
1 \RequirePackage[
2 backend=biber,
3 style=cnltx,
4 sortlocale=en_EN,
5 indexing=cite,
6 useprefix]{biblatex}
7 \addbibresource{cnltx.bib}
8 \AtEndDocument{\printbibliography}
```

As you can see there's also a bibliography database file cnltx.bib that provides a yet small but growing number of package entries.

### 10. Predefined listings and mdframed Styles

### 10.1. mdframed

The source code environments (see section 7.4 on page 15) all get a frame with the help of the mdframed [Dan13] package. For this a custom style is defined called cnltx. The options frame-options and add-frame-options mentioned in section 7.4 on page 15 manipulate this style. It is predefined with these values:

```
1 \def\cnltx@mdframed@options
2  {
3    backgroundcolor = cnltxbg ,
4    linecolor = cnltx ,
5    roundcorner = 5pt
6  }
```

### 10.2. listings

### 10.2.1. Sourcecode

The code of the source code environments (see section 7.4 on page 15) is formatted with the help of the listings package [HM13]. A listings style is defined called cnltx. The options add-cmds, add-silent-cmds, add-envs, add-silent-envs, listings-options and add-listings-options manipulate this style. It is predefined by CNLTX-EXAMPLE as follows:

```
xleftmargin
                     = 1em,
    numbersep
                     = .75em,
    gobble
                     = \cnltx@gobble ,
    columns
                     = fullflexible,
    literate
     {ä}{{\"a}}1
12
      {ö}{{\"o}}1
13
     {ü}{{\"u}}1
     {Ä}{{\"A}}1
     {Ö}{{\"0}}1
16
     {Ü}{{\"U}}}1
17
     \{\emptyset\}\{\{\setminus ss\}\}\}1 ,
18
19
   breaklines
                     = true,
    keepspaces
                     = true,
20
    breakindent
                     = 1em,
   commentstyle = \color{comment},
    keywordstyle = \color{cs},
23
    deletetexcs
24
     {
25
        a,o,u,A,O,U,
26
        begin,
27
        center,
28
        description, document,
        end, enumerate,
30
        figure, flushleft, flushright,
31
        itemize, list,
32
        otherlanguage,
33
        table,tabu,tabular
34
      },
35
    deletekeywords
36
        a,o,u,A,O,U,
38
        begin,
39
        center,
        description, document,
41
        end, enumerate,
42
        figure, flushleft, flushright,
43
        itemize, list,
        otherlanguage,
        table,tabu,tabular
46
      },
47
   % \begin, \end:
48
   texcsstyle = [2]\color{beginend},
                    = [2][texcs2],
    index
50
    indexstyle
                     = [2]\@gobble,
                 = [2]{begin,end},
    moretexcs
   % added environments that'll be indexed:
   texcsstyle = [3]\color{env},
```

```
index = [3][texcs3],
indexstyle = [3]\envidx,
% environments that won't be indexed:
texcsstyle = [4]\color{env},
index = [4][texcs4],
indexstyle = [4]\@gobble,
indexstyle = [5]\color{cs},
index = [5][texcs5],
index = [5][texcs5],
index = [5]\indexcs,
index = [6]\color{cs},
index = [6]\color{cs},
index = [6][texcs6],
index = [6][texcs6],
index = [6][texcs6],
index = [6]\@gobble
```

### 10.2.2. BIBTEX entries

Introduced in version 0.4

The CNLTX-LISTINGS package defines a listings language BibTeX by defines a huge number of bibentry types and bibentry field types, have a look at section 9.7.1 on page 24. CNLTX-EXAMPLE defines a listings style for formatting them:

```
1 \def\cnltx@bibtex@listings@style{
{ä}{{\"a}}1
11
\{\ddot{0}\}\{\{\"0\}\}\}
_{^{13}}\qquad \{\ddot{u}\}\{\{\backslash "u\}\}\mathbf{1}
\{\ddot{A}\}\{\{\"A\}\}\}
    {Ö}{{\"0}}1
15
       {Ü}{{\"U}}}1
16
       \{\emptyset\}\{\{\setminus ss\}\}\}1 ,
     breaklines = true,
18
     keepspaces
                               = true,
     breakindent = 1em,
     commentstyle = \color{comment},
 \begin{array}{lll} \mbox{$_{22}$} & \mbox{keywordstyle} & = \mbox{$\subset$ loss of bibentry} \ , \\ \mbox{$_{23}$} & \mbox{keywordstyle} & = \mbox{$[2]$$$$\mbox{$\subset$ loss of bibentryfield}$$$\mbox{$\downarrow$ itshape} \ , \\ \end{array} 
     showstringspaces = false ,
25 }
```

### 11. PDF Strings and hyperref

Since the formatting and indexing commands \cs, \env, \option, \pkg, \cls and \key are robust they are ignored in PDF strings. For this reason you should *only use the starred variants* in places where PDF bookmarks are built from such as section titles when you use hyperref [OR12]. Since CNLTX-DOC loads hyperref this means you should do so, too, when you use CNLTX-DOC. This is important for two reasons:

- Indexing in strings that get written to the table of contents does noch make much sense, anyway, so the starred versions should be used in section titles even if you don't use hyperref.
- 2. When hyperref is loaded the mentioned commands are disabled in PDF strings in a way that *expects* them to be followed by a star. This means leaving the star out will result in doesn't match its definition errors.

### 12. Predefined Colors and Color-Schemes

### 12.1. Explicitly Defined Colors

The **CNLTX-BASE** package defines a number of colors:

cnltxbrown Per default used for the control sequences.

cnltxblue Unused per default.

cnltxred Per default used as base color in various places.

cnltxgreen Unused per default.

cnltxgray Per default used for formatting comments.

cnltxyellow Per default used for options.

cnltxformalblue Unused per default.

cnltxformalred Unused per default.

### 12.2. Actual Used Color Names and Color Schemes

The colors defined in section 12.1 are not directly used with those names. Instead colors are used whose names describe their function rather than the color. For this the color names are mapped to actual colors and saved as a coloring scheme. There are currently three predefined color schemes whose definitions are given below. Those definitions also show the actually used color names. They are defined via the following command:

 $\definecolorscheme{\langle name \rangle} {\langle color assignments \rangle}$ 

Introduced in version 0.5

Defines the color scheme  $\langle name \rangle$ . When used all assignments will be actually carried aout with xcolor's \colorlet command. How to input  $\langle color \ assignments \rangle$  will be immediately clear from the examples below.

The 'default' color scheme is defined as follows:

```
1 \definecolorscheme{default}{
              => cnltxbrown , % command sequences
               => cnltxyellow ,% options
   option
              => cnltxyellow ,% modules
   option
   comment
               => cnltxgray , % comments
              => red ,
   beginend
                              % \begin and \end
              => black ,
                              % environment names
   env
                             % argument delimiters
   argument => black ,
              => black!80 , % arguments of \meta
             => cnltxred , % base color
=> white , % source code box background
   cnltx
   cnltxbg
            => black!90 , % hyperlinks
   link
   versionnote => black!75 % versioning notes text
   bibentry => cnltxgreen , % BibTeX entry types
   bibentryfield => black, % BibTeX entry fields
   expandable => red ,
                              % the color used in \expandable
   unexpandable => black
                             % the color used in \unexpandable
17
18 }
```

The 'blue' color scheme is defined this way:

```
1 \definecolorscheme{blue}{
       => cnltxbrown ,
   option
             => cnltxgreen ,
  module
             => cnltxred ,
             => cnltxgray ,
  comment
             => red ,
  beginend
              => black ,
   env
             => black ,
   argument
              => black!80 ,
   meta
             => cnltxblue ,
   cnltx
   cnltxbg
             => yellow!10 ,
             => cnltx ,
  versionnote => black!75
  bibentry
              => cnltxyellow ,
   bibentryfield => black ,
   expandable
             => red ,
   unexpandable => black
```

18 }

Finally the 'formal' color scheme is defined like this:

```
1 \definecolorscheme{formal}{
             => black ,
               => cnltxformalblue ,
   option
   module
               => cnltxblue ,
   comment
               => cnltxgray ,
   beginend
               => red ,
                => black ,
   env
   argument
                => black ,
   meta
                => black!80 ,
               => cnltxformalblue ,
   cnltx
   cnltxbg
               => white ,
   link
               => black!90 ,
   versionnote => black!75 ,
               => black ,
   bibentry
   bibentryfield => black ,
   expandable
                => red ,
   unexpandable => black
18 }
```

### 13. Language Support

Introduced in version 0.2

The CNLTX-DOC and the CNLTX-EXAMPLE package both rely on the translations package [Nie13c] for providing some document language dependent strings. Currently only translations for English and German are provided. Others can be added and the existing ones changed with the following command provided by the translations package:

```
\DeclareTranslation{\langle language \rangle}{\langle keyword \rangle}{\langle translation \rangle}
Provide translations for the string identified by the ID \langle keyword \rangle.
```

The defined strings are listed in table 1 on the next page. They are used in indexing strings and in different parts of the document.

### Part III.

# **Appendix**

### A. Internal Helper Commands

The commands in this section are only described for the sake of completeness. They are not meant to be used in a document.

TABLE 1: Overview over available internationalization key words.

Package	key word	English version	German version
CNLTX-EXAMPLE	<pre>cnltx-package cnltx-class</pre>	package class	Paket Klasse
CNLTX-EXAMPLE CNLTX-EXAMPLE	cnltx-environment	environment	Umgebung
CNLTX-DOC	cnltx-default	Default	Voreinstellung
CNLTX-DOC	cnltx-empty	initially empty	zunächst leer
CNLTX-DOC	cnltx-required	required	erforderlich
CNLTX-DOC	cnltx-toc	Table of Contents	Inhaltsverzeichnis
CNLTX-DOC	cnltx-license	Permission is granted to copy, distribute and/or modify this software under the terms of the LATEX Project Public License (LPPL), version 1.3 or later (http://www.latex-project.org/lppl.txt). The software has the status	Es ist erlaubt, diese Software zu kopieren und zu verteilen unter den Bedingungen der LATEX Project Pub- lic License (LPPL), Version 1.3 oder später. (http://www. latex-project.org/ lppl.txt). Sie hat den Status
CNLTX-DOC	cnltx-introduced	Introduced in version	Eingeführt in Version
CNLTX-DOC	cnltx-changed	Changed in version	Geändert in Version
CNLTX-DOC	cnltx-f.	f.	f.
CNLTX-DOC	cnltx-ff.	ff.	ff.
CNLTX-DOC	cnltx-maintainer	current maintainer	aktueller Maintainer
CNLTX-DOC	cnltx-maintainer	current maintainers	aktuelle Maintainer

### A.1. Defined by CNLTX-BASE

Especially CNLTX-BASE defines some useful helper macros that are also used by the other packages and classes.

### \cnltx@@date

The creation date of the current version of the bundle.

### \cnltx@@version

The version number of the bundle.

### \cnltx@@info

The short description of the bundle.

### Changed in version 0.2

Introduced in version 0.3

\cnltx@create@message\*{\langle module \rangle} {Error|Warning|WarningNoLine|Info}

Create suiting error and warning messaging commands for the module  $\langle module \rangle$ . The starred version creates messages for a class the un-starred version messages for a package.

Issue an error message using \PackageError{cnltx-base}.

```
\coloredge{\coloredge} \coloredge{\coloredg
```

Issue a warning message using \PackageWarning{cnltx-base}.

### \cnltx@base@warningnoline{\langle message\rangle}

Issue a warning message using \PackageWarningNoLine{cnltx-base}.

### $\coloredge{\coloredge} \coloredge{\coloredge} \coloredge{\coloredg$

Issue a message using \PackageInfo{cnltx-base}.

### \cnltx@par

Expands to \par. Sometimes you need to smuggle a \par in a short macro ...

A generic version of LaTeX's \@ifstar that checks if  $\langle token \rangle$  follows if the input stream. If yes it is removed and  $\langle true \rangle$  is placed in the input stream else  $\langle false \rangle$ .

A wrapper for \cnltx@ifsym{-}.

### $\cnltx@ifbang{\langle true \rangle} {\langle false \rangle}$

A wrapper for \cnltx@ifsym{!}.

### 

Expands  $\langle macro \rangle$  once before it is passed as argument to  $\langle cs \rangle$ .

### 

Exhaustive expansion of  $\langle argument \rangle$  before it is passed as argument to  $\langle cs \rangle$ .

```
Exhaustive expansion of \langle argument1 \rangle and \langle argument2 \rangle before they're passed as argumenst to
                                                                                                             \langle cs \rangle. This is an alias of the kernel command \@expandtwoargs defined for the sake of consistency.
                                                                                               \color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=
                                                                                                                Places the exhaustively exampanded \langle code \rangle after \langle cs \rangle \{\langle argument \rangle\} in the input stream (e.g. for
Introduced in
 version o.4
                                                                                                                 expanding an argument to an environment).
                                                                                               \cnltx@stripbs
                                                                                                                A shortcut for \expandafter\@gobble\string.
                                                                                               \cnltx@if@in{\langle tokenlist\rangle}{\langle search\rangle}{\langle true\rangle}{\langle false\rangle}
                                                                                                                Places \langle true \rangle in the input stream if \langle search \rangle is found in \langle tokenlist \rangle and \langle false \rangle if it isn't.
                                                                                               \colored{cs}{\{\langle cs\rangle\}\{\langle search\rangle\}\{\langle replace\rangle\}}
                                                                                                                Replaces the first occurrence of \langle search \rangle in the first expansion of \langle cs \rangle with \langle replace \rangle.
                                                                                               \color= \col
                                                                                                                The same as \cnltx@replace@once but \langle cs \rangle will be redefined with \log_s.
Introduced in
version 0.3
                                                                                               \cnltx@replace@all{\langle cs \rangle}{\langle search \rangle}{\langle replace \rangle}
                                                                                                                Replaces all occurences of \langle search \rangle in the first expansion of \langle cs \rangle with \langle replace \rangle.
                                                                                               \cnltx@long@replace@all{\langle cs \rangle}{\langle search \rangle}{\langle replace \rangle}
                                                                                                                 The same as \cnltx@replace@all but \langle cs \rangle will be redefined with \loong.
Introduced in
 version 0.3
                                                                                               \colored{cnltx@remove@once}{\langle cs\rangle}{\langle search\rangle}
                                                                                                                Removes the first occurrence of \langle search \rangle in the first expansion of \langle cs \rangle.
Introduced in
 version 0.3
                                                                                               \color= \col
                                                                                                                The same as \cnltx@remove@once but \langle cs \rangle will be redefined with \closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\closlcolline{\
 Introduced in
 version o.3
                                                                                               \colored \
                                                                                                                Removes all occurences of \langle search \rangle in the first expansion of \langle cs \rangle.
 Introduced in
 version 0.3
                                                                                               \color= \col
                                                                                                                The same as \cnltx@remove@all but \langle cs \rangle will be redefined with \cnltumong.
 Introduced in
 version 0.3
                                                                                               Command that can be used to define a color scheme.
                                                                                                                 A.2. Defined by CNLTX-DOC
                                                                                               \coloredge{\coloredge} \coloredge{\coloredge}
                                                                                                                Issue an error message using \ClassError{cnltx-doc}.
                                                                                               Issue a warning message using \ClassWarning{cnltx-doc}.
```

### $\coloredge{\coloredg$

Issue a warning message using \ClassWarningNoLine{cnltx-doc}.

### $\coloredge{\coloredge}\coloredge{\coloredge}$

Issue a message using \ClassInfo{cnltx-doc}.

```
\cnltx@getfileinfo{\langle file name\rangle} {\langle file extension\rangle}
```

Extract the date, version and background information for a package or a class.

### $\colonerge{cnltx@version@note{\langle note \rangle}}$

Command that is used for the versioning notes interally. Sets \reversemarginpar and then writes the note  $\langle note \rangle$  to the margin with corresponding formatting.

### \begin{cnltxlist}

The list environment that is used by the environments commands, options and environments.

### A.3. Defined by CNLTX-EXAMPLE

### $\coloredge{\coloredge} \coloredge{\coloredge}$

Issue an error message using \PackageError{cnltx-example}.

### $\coloredge{\coloredg$

Issue a warning message using \PackageWarning{cnltx-example}.

### $\color= \color= \col$

Issue a warning message using \PackageWarningNoLine{cnltx-example}.

### $\coloredge{\coloredge}\coloredge{\coloredge}$

Issue a message using \PackageInfo{cnltx-example}.

#### \cnltxat

Robust command that typesets '@' with category code 11. An @ in command names confuses the indexing of the command names. Either one uses another symbol for makeindex's "actual" recognition and also tells idxcmds [Nie13b] about it or one uses \cnltxat in \cs and friends. For the sake of convenience you can define a command like \at that expands to it. In order not to overwrite any such existing macro it is not defined by CNLTX-EXAMPLE. This document for example defines \def\at{\cnltxat}.

### \cnltxletterat

An alias of \cnltxat.

### \cnltxotherat

The same as \cnltxat but with a '@' with category code 12.

### \cnltxbang

The same as \cnltxotherat except that it contains a '!'.

<sup>18.</sup> This is important. If you \let it to \cnltxat index entries may be sorted differently! Remember: \cnltxat is robust.

### \cnltxequal

The same as \cnltxotherat except that it contains a '='.

#### \cnltx@isvalue

Used in definitions of the key/value option typesetting commands. Inserts a = with some stretchable space around and a legal break-point after it.

#### \indexcs

Changed in version 0.2

Version of \csidx that takes care of a \textcompwordmark inserted by listings. Also replaces all occurences of @ with category code 11 or 12 with \cnltxat. Used to index commands in the sourcecode and example environments that have been added with add-cmds.

### $\newarg[\langle arg\ formatting\rangle]\{\langle cs\rangle\}\{\langle left\ delim\rangle\}\{\langle right\ delim\rangle\}$

Default: \meta

Command used to define the argument commands:  $\mbox{\mbox{$newarg\marg{\mbox{$}}}}$ . The optional argument determines how the argument of the new command will be formatted. This is done with  $\mbox{\mbox{$meta$} per default. $newarg[\code]\mbox{$meta$}}$ 

### **\MakePercentComment**

Sets the category code of % to 14.

### \cnltx@copyablespace

Prints a space that is also copyable. Uses the accsupp package by Heiko Oberdiek [Obeo1].

### \cnltx@mdframed@options

Predefined option list for the mdframed [Dan13] style cnltx.

### \cnltx@listings@style

Predefined option list for the listings [HM13] style cnltx.

### A.4. Defined by CNLTX-LISTINGS

Issue an error message using \PackageError{cnltx-listings}.

### 

Issue a warning message using \PackageWarning{cnltx-listings}.

### $\coloredge{cnltx@listings@warningnoline}{\langle message \rangle}$

Issue a warning message using \PackageWarningNoLine{cnltx-listings}.

### 

Issue a message using \PackageInfo{cnltx-listings}.

### \cnltx@predefined@control@sequences

A comma-separated list of predefined 'silent' control sequence names.

### \cnltx@predefined@environments

A comma-separated list of predefined 'silent' environment names.

#### \listsilentcmds

Prints all known control sequence names formatted and separated with a comma.

#### **\listsilentenvs**

Prints all known environment names formatted and separated with a comma.

### A.5. Defined by CNLTX-TOOLS

```
\color= \col
                  Issue an error message using \PackageError{cnltx-tools}.
\color= \col
                  Issue a warning message using \PackageWarning{cnltx-tools}.
\coloredge{cnltx@tools@warningnoline{\langle message \rangle}}
                  Issue a warning message using \PackageWarningNoLine{cnltx-tools}.
\coloredge{cnltx@tools@info{\langle message \rangle}}
                  Issue a message using \PackageInfo{cnltx-tools}.
A wrapper for package accsupp's \BeginAccSupp{ActualText = \langle actual \ text \rangle} \langle T_FX \ text \rangle
                   \EndAccSupp{}.
```

### B. List of Known LATEX Control Sequences

Below are listed all *predefined* control sequence names that are treated as "silent" names by CNLTX, that is, those defined by CNLTX-LISTINGS. You may notice that the list does not cover all control sequences that are formatted. That is because listings [HM13] already has a number of known control sequence names. This list probably overlaps with those on some parts, though.

\-, \@, \@alph, \@Alph, \@arabic, \@ctrerr, \@empty, \@firstofone, \@firstoftwo, \@gobble, \@ifclassloaded, \@ifnextchar, \@ifpackageloaded, \@ifstar, \@roman, \@Roman, \@secondoftwo, **\@slowromancap**, \addbibresource, \addtokomafont, \ae, \AE, \AfterEndPreamble, \AfterPreamble, \AfterEndDocument. \AfterEndEnvironment, \alph, \Alph, \appto,

\author, \autodot, \arabic, \AtBeginDocument, \AtBeginEnvironment, \AtEndDocument, \AtEndEnvironment, \AtEndPreamble, \baselineskip, \BeforeBeginEnvironment, \begingroup, \bfseries, \bgroup, \boolfalse, \booltrue, \c, \caption, \cb, \centering, \chapter, \cleardoublepage, \clearpage, \discretionary, \dj, \DJ, \color, \cref, \csdef, \cslet, \csletcs, \csname, \csuse, \d, \date, \dh, \DH,

\DeclareDictTranslation, \DeclareListParser. \DeclareRobustCommand, \DeclareLanguage, \DeclareLanguageAlias, \DeclareLanguageDialect, \DeclareTranslation, \DeclareTranslationFallback, \deffootnote, \deffootnotemark, \definecolor, \descriptionlabel, \dimexpr, \documentclass, \egroup, \emph, \endcsname, \endgroup, \endnote, \enlargethispage,

### B. List of Known LATEX Control Sequences

\fontshape, \fontspec, \footnote, \footnotesize, \footnotetext, \forlistloop, \foreignlanguage, \frenchspacing, \GetTranslation, \GetTranslationFor, \global, \H, \hskip, \hspace, \huge, \Huge, \hypersetup, \hyphenation, \ifblank, \ifbool, \ifboolexpe, \ifboolexpr, \ifcsdef, \ifcsname, \ifdef, \ifinlist, \ifstr, \ifstrempty, \ifstrequal, \ignorespaces, \ignorespacesafterend, \include, \includeonly, \indent, \input, \InputIfFileExists, \item, \itshape, \j, \k, \KOMAoption, \KOMAoptions, \l, \L, \labelenumi, \labelenumii, \labelenumiii, \labelenumiv, \label, \labelitemi, \labelitemii, \labelitemiii, \labelitemiv, \labelsep, \large, \Large, \LARGE, \LaTeX, \LaTeXe, \linebreak, \linewidth, \listadd, \LoadClassWithOptions, \LoadClass, \LoadDictionary, \LoadDictionaryFor, \lstinline, \lstinputlisting, \ltx@ifnextchar, \LuaLaTeX, \LuaTeX, \maketitle, \mathparagraph, \mathsection, \mbox, \mdseries, \NeedsTeXFormat, \newbool, \newcommand, \newcounter, \newfontfamily, \newlabel, \newline, \newpage, \newrobustcmd, \NewTranslation, \ng,

\expandonce, \fbox, \fontsize, \NG, \node, \nolinebreak, \nonfrenchspacing, \noindent, \notblank, \nopagebreak, \normalsize, \normalfont, \number,  $\n$ \othersectionlevelsformat, \P, \pagebreak, \par, \paragraph, \parindent, \part, \partformat, \partname, \patchcmd, \pdfLaTeX, \pdfstringdefDisableCommands, \pdfTeX, \pgfkeys, \pounds, \preto, \printacronyms, \printbibliography, \printendnotes, \printindex, \ProcessPgf0ptions, \ProcessOptions, \protected, \protecting, \providecommand, \providerobustcmd, \ProvidesClass, \ProvideDictionaryFor, \ProvidesPackage, \quad, \qquad, \r, \raggedright, \raggedleft, \RaggedRight, \ref, \refstepcounter, \relax, \renewcommand, \renewrobustcmd, \RenewTranslation, \RequirePackage, \rightarrow, \robustify, \roman, \Roman, \rmfamily, \S, \samepage, \SaveTranslation, \SaveTranslationFor, \scriptsize, \scshape, \section, \selectfont, \selectlanguage, \setcapindent, \setcounter, \setfnpct, \setkomafont, \setlength, \setmainfont, \setmainlanguage, \setmonofont, \setotherlanguage, \setotherlanguages,

\setsansfont, \shorthandoff, \shorthandon, \sidenote, \sffamily, \slshape, \small, \ss, \SS, \stepcounter, \subparagraph, \subsection, \subsubsection, \t, \tableofcontents, \TeX, \test, \textasciicircum, \textasciitilde, \textasteriskcentered, \textbackslash, \textbar, \textbf, \textbraceleft, \textbraceright, \textcolor, \textcompwordmark, \textdollar, \textemdash, \textendash, \textenglish, \textexclamdown, \textgreater, \textit, \textless, \textmd, \textogonekcentered, \textrm, \textsc, \textsf, \textquestiondown, \textquotedbl, \textquotedblleft, \textquotedblright, \textquoteleft, \textquoteright, \textsc, \textsection, \textsl, \textsubscript, \textsuperscript, \textsterling, \texttt, \textunderscore, \textup, \textwidth, \th, \TH, \the, \theendnotes, \theenumi, \theenumii, \theenumiii, \theenumiv, \thefootnotemark, \thepart, \tikz, \tiny, \title, \today, \ttfamily, \two@digits, \usecounter, \usepackage, \upshape, \v, \vskip, \vspace, \xdefinecolor, \XeLaTeX, \XeTeX

### C. List of Known LATEX Environments

Below are listed all *predefined* control sequence names that are treated as "silent" names by **CNLTX**, that is, those defined by **CNLTX-LISTINGS**.

center, description, document, labeling, list, longtable, tabularx, tabulary, verbatim enumerate, figure, flushleft, otherlanguage, quote, quoting, flushright, itemize, tabbing, table, tabu, tabular,

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