

IDXCMDS

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create commands for adding formatted index entries (CN)

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1 Licence and Requirements

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`IDXCMDS` loads and needs the the packages `etoolbox` [Leh15], `pgfopts` [Wri11] and `ltxcmds` [Obe11].

2 Motivation

When working on a larger document and designing and writing the macros for various bits and pieces I was going to use I found myself repeatedly writing the same kind of macros again and again that had some kind of semantic meaning, maybe some markup definitions that also created an index entry and had a star form for omitting the index entry. They all had more or less the following structure:

```

1 \makeatletter
2 \newcommand*\cmd{\@ifstar\cmd@star\cmd@nostar}
3 \newcommand*\cmd@star[1]{\cmd@base{#1}}
4 \newcommand*\cmd@nostar[1]{\cmd@base{#1}\cmd@idx{#1}}
5 \newcommand*\cmd@base[1]{\textit{#1}}
6 \newcommand*\cmd@idx[1]{\index{#1@\cmd@base{#1}}}
7 \makeatother

```

After having copied and pasted this code for the fourth time I thought: you should have a command that does this for you. That was when `\newidxcmd` was born. This command soon enough got some extensions, *e. g.*, giving the commands thus defined an optional argument that allowed specifying the sorting. It wasn't long before I realized that I might want to use this `\newidxcmd` again in other documents which was when I wrote the first draft of this package.

I added other commands, `\newsubmainidxcmd` and `\newsubidxcmd`, which I didn't (and still don't) really use or need but of which I thought they could be useful for others, and here we are.

3 Usage

3.1 Available Commands

`IDXCMDs` provides these commands:

`\newidxcmd`[$\langle index\ cs\rangle$]{ $\langle cs\rangle$ }{ $\langle formatting\ specs\rangle$ }[$\langle append\rangle$]

Defines a command $\langle cs\rangle$ that formats its argument according to $\langle formatting\ specs\rangle$ and creates an index entry with $\langle index\ cs\rangle$ that gets $\langle append\rangle$ appended. Refer to the argument of $\langle cs\rangle$ in $\langle formatting\ specs\rangle$ with #1.

Also defines a command `\ $\langle cs\rangle$ idx` that allows to only create an index entry. See section 3.2.1 for examples and further description of its functionality. Default for $\langle index\ cs\rangle$ is `\index`.

`\newsubidxcmd`*[$\langle index\ cs\rangle$]{ $\langle cs\rangle$ }{ $\langle main\ entry\rangle$ }{ $\langle form.\ specs\rangle$ }[$\langle append\rangle$]

Defines a command $\langle cs\rangle$ that formats its argument according to $\langle form.\ specs\rangle$ and creates an index sub-entry to $\langle main\ entry\rangle$ with $\langle index\ cs\rangle$ that gets $\langle append\rangle$ appended. Refer to the argument of $\langle cs\rangle$ in $\langle form.\ specs\rangle$ with #1.

Also defines a command `\ $\langle cs\rangle$ idx` that allows to only create an index entry. See section 3.2.2 for further description of its functionality. Default for $\langle index\ cs\rangle$ is `\index`.

`\newsubmainidxcmd`[$\langle index\ cs\rangle$]{ $\langle cs\rangle$ }{ $\langle form.\ specs\rangle$ }[$\langle append\rangle$]

Defines a command $\langle cs\rangle$ that formats its argument according to $\langle form.\ specs\rangle$ and creates an index sub-entry to a main entry with $\langle index\ cs\rangle$ that gets $\langle append\rangle$ appended. Refer to the argument of $\langle cs\rangle$ in $\langle form.\ specs\rangle$ with #1.

Also defines a command `\ $\langle cs\rangle$ idx` that allows to only create an index entry. The main entry is specified at use time. See section 3.2.3 for examples and further description of its functionality. Default for $\langle index\ cs\rangle$ is `\index`.

The commands $\langle cs \rangle$ defined this way are robust but their formatting argument is not placed in a group. Keep this in mind when you use `\bfseries` or something in a definition. $\langle cs \rangle$ will be defined using etoolbox' `\newrobustcmd` which means an error will be thrown if $\langle cs \rangle$ is already defined.

Of course these commands cannot cover all possible use cases for index entries but that is not the intention of this package, anyway.

3.2 Command Usage

3.2.1 `\newidxcmd`

The command `\newidxcmd{\foo}{\langle formatting specs \rangle}` will define a new command `\foo` with the following syntax:

`\foo*{\langle text \rangle}`

format $\langle text \rangle$ according to specifications, no index entry.

`\foo[\langle sort idx \rangle]{\langle text \rangle}[\langle append \rangle]`

format $\langle text \rangle$ according to specifications, add formatted index entry, sorted according to $\langle sort idx \rangle$ or, if the optional argument is left out, sorted according to $\langle text \rangle$. $\langle append \rangle$ is added to the index entry if the trailing optional argument is used (this can be useful for instance for getting formatted page numbers).

`\fooidx[\langle sort idx \rangle]{\langle text \rangle}[\langle append \rangle]`

add formatted index entry, sorted according to $\langle sort idx \rangle$ or, if the optional argument is left out, sorted according to $\langle text \rangle$. $\langle append \rangle$ is added to the index entry if the trailing optional argument is used.

Let's see an example:

```

1 % in the preamble, probably:
2 % \newidxcmd{\acr}{\textsc{#1}}
3 % \newidxcmd[{\index[environments]}]{\environ}{\texttt{#1}}[ (Environment)]
4 % \newidxcmd{\scientist}{\textsf{#1}}
5 \acr{cd}, \acr{id}
6
7 \environ{center}, \environ{flushleft}
8
9 \scientist*{Albert Einstein}, \scientist[Heisenberg]{Werner Heisenberg}

```

CD, ID
center, flushleft
Albert Einstein, Werner Heisenberg

You will find these examples in the index of examples or the index of environments, respectively. The second set of examples shows the purpose of the first optional argument: if you have several indexes – like this documentation has for demonstration purposes – you might need to specify the index command used.¹ If you want to prove if the example worked: Albert Einstein should not be found in the index and Werner Heisenberg should be sorted under *Heisenberg*. Both `center` and `flushleft` should be found in the examples index.

Now let's dissect the example a bit. The uses of `\acr{cd}`, `\scientist*{Albert Einstein}` and `\environ{center}` will essentially expand to

```

1 % \acr{cd} =>
2 \textsc{cd}\index{cd@\textsc{cd}}
3 % and in \jobname.idx =>
4 \indexentry{cd@\textsc {cd}}{3}
5
6 % \scientist*{Albert Einstein} =>
7 \textsf{Albert Einstein}
8
9 % \environ{center} =>
10 \texttt{center}\index[environments]{center@\texttt{center} (Environment)}
11 % and in examples.idx =>
12 \indexentry{center@\texttt {center} (Environment)}{3}

```

3.2.2 `\newsubidxcmd`

The command `\newsubidxcmd*{\foo}{\langle main entry \rangle}{\langle form. specs \rangle}` will define a new command `\foo` with the same syntax as `\newidxcmd` does. However, `\newsubidxcmd` has an additional argument that specifies the main index entry this group of sub entries belongs to. For the unstarred variant this argument can be some arbitrary main entry. For the starred variant it demands a command plus argument defined by `\newidxcmd` as argument.

```

1 % preamble:
2 % \newsubidxcmd{\test}{Test}{\textcolor{red}{#1}}
3 % \newsubidxcmd*{\hsnbg}{\scientist[Heisenberg]{Werner Heisenberg}}{#1}
4 \scientist[Heisenberg]{Werner Heisenberg} was born in
5 \hsnbg[Wuerzburg]{W"urzburg (Germany)}. He worked as a
6 professor in \hsnbg[Leipzig (Germany)]. And this is a
7 \test{test}.

```

1. This document uses `imakeidx [Gre13]` for this purpose.

Werner Heisenberg was born in Würzburg (Germany). He worked as a professor in Leipzig (Germany). And this is a **test**.

3.2.3 `\newsubmainidxcmd`

The command `\newsubmainidxcmd{\foo}{\langle form. specs \rangle}` will define a new command `\foo` similar to `\newsubidxcmd` but where the main index entry is specified for every use case in the running text. `\foo` will have the following syntax:

`\foo*{\langle text \rangle}`

format `\langle text \rangle` according to specifications, no index entry.

`\foo[\langle sort idx \rangle]{\langle text \rangle}{\langle main entry \rangle}[\langle append \rangle]`

format `\langle text \rangle` according to specifications, add formatted index sub-entry to the main index entry `\langle main entry \rangle`, sorted according to `\langle sort idx \rangle` or, if the optional argument is left out, sorted according to `\langle text \rangle`. `\langle append \rangle` is added to the index entry if the trailing optional argument is used (this can be useful for instance for getting formatted page numbers).

`\fooidx[\langle sort idx \rangle]{\langle text \rangle}{\langle main entry \rangle}[\langle append \rangle]`

add formatted index sub-entry to the main index entry `\langle main entry \rangle`, sorted according to `\langle sort idx \rangle` or, if the optional argument is left out, sorted according to `\langle text \rangle`. `\langle append \rangle` is added to the index entry if the trailing optional argument is used.

```

1 % in the preamble, probably:
2 % \newsubmainidxcmd{\file}{\textsf{#1}}
3 \file{article}{classes} is a standard \LaTeX{} class.
4 \file{scartcl}{KOMA-Script@KOMAScript} is part of the \KOMAScript{} bundle.
5 \file*{test} is a dummy.
```

article is a standard L^AT_EX class. scartcl is part of the KOMA-Script bundle. test is a dummy.

3.3 Options

IDXCMDs has the following options – either setable as package option or with the setup command `\setidxcmds{\langle options \rangle}` which takes a comma separated list of options:

`sort-sep = {\langle symbol \rangle}`

Default: @

set makeindex symbol to separate the index into sorting and typesetting part as specified in the index style file.

`sub-sep = {\langle symbol \rangle}`

Default: !

set makeindex symbol to add a sub entry as specified in the index style file.

Introduced in
version 0.2b

`idx-cmd = {\cs}`

Default: `\index`

The default indexing command that is used by `IDXCMS`.

References

- [Gre13] Enrico GREGORIO. imakeidx. version 1.3a, July 11, 2013.
URL: <http://mirror.ctan.org/macros/latex/contrib/imakeidx/>.
- [Leh15] Philipp LEHMAN, current maintainer: Joseph WRIGHT.
etoolbox. version 2.2, Apr. 4, 2015.
URL: <http://mirror.ctan.org/macros/latex/contrib/etoolbox/>.
- [Obe11] Heiko OBERDIEK. ltxcmds. version 1.22, Nov. 9, 2011.
URL: <http://mirror.ctan.org/macros/latex/contrib/oberdiek/>.
- [Wri11] Joseph WRIGHT. pgfopts. version 2.1, June 2, 2011.
URL: <http://mirror.ctan.org/macros/latex/contrib/pgfopts/>.

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