

**XCNTPERCHAP**

**Store counter values per chapter (or other track levels)**

**Documentation**

**Version 0.2**

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


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## Typographical conventions

Throughout this documentation following symbols and conventions are used:


-  **foo** means a the class `foo`
-  **foo** names a package `foo`
-  **foo** indicates a counter named `foo`
-  `foo` will indicate either a file named `foo` or a file extension `foo`
-  `foo` will indicate some files
-  **foo** names a special feature or tag `foo`
-  **foo** deals with a command or package option named `foo`



## 1 Disclaimer

This package as of its version 0.2 is a rewrite of the former  **cntperchap** by the same author, is under constant development and as such subject to macro interface changes as well as renaming of macros. Not all features of the previous package has been incorporated so far – if some functionality of your document depends on  **assoccnt**, continue using the older version and shift gradually to  **xcntperchap** please.

 Most times class and package authors will benefit of this package, but there might be usual documents that need the features of `|xcntperchap|`

## 2 Introduction

The aim of this package is to provide support for a summary in advance how many sections, subsections, etc. or figures, tables, equations there will be in predefined track level, for example per chapters. The values are stored at the beginning of such a new track level, say `\chapter` and written to a  `jobname.cpc` file.

 Since the  **page** counter is an unreliable 'friend' it is not advised to use this counter as a track level.

As of version 0.2 there is no default version of a track level.

This package is the consequence of the question <http://tex.stackexchange.com/questions/241559/how-to-count-the-total-number-of-sections-within-a-chapter> by the user `gsl`.




## 3 Package options

As of version 0.2 the package has no package options.

## 4 Requirements and incompatibilities








### 4.1 Required packages



Since  **xcntperchap** is written using  **expl3**, it requires the  **xparse** package. It relies on the features of associated counters introduced by  **xassoccnt**, this package is also needed

-  **expl3**
-  **xparse**
-  **xassoccnt**

The package  **xparse** is already loaded by  **assoccnt** and does not need to be specified again.

## 4.2 Incompatibilities

This package has been tested with the standard classes  **article**,  **book** and  **report** as well as with  **memoir** and the relevant  **KOMA** equivalents. As of version 0.2 for those classes there are no known incompatibilities with the general behaviour of the package, however, there is an issue with  **assoccnt** and  **xifthen** which is not solved so far.

It would be nice to adapt the package for usage on a per frame base with the  **beamer** class, but this seems both not really necessary as well as quite difficult, since  **beamer** follows different strategies about the usage of “pages” or “sections”, see 8



## 5 Documentation of Macros




### 5.1 Preamble only commands

`\RegisterCounters{<track counter>}{<counter1, counter2,...>}`

This provides the means to let the package know that the counters should be tracked for values inside a certain track level – specify this in the document preamble.

New: v0.1  
2016-05-  
22

#### Description of arguments of command `\RegisterCounters`

- `{<track counter>}` This contains the counter name which is the track level, e.g.  **section**
- `{<counter1, counter2,...>}` This marks the counters to be tracked inside the track level, e.g.  **subsection**,  **subsubsection**

## 6 User commands



`\ObtainTrackedValue[<counter value>]{<track level>}{<tracked counter>}`


This command prints the value of the tracked counter of a track counter, i.e. the number of subsections in a specific chapter, say, the 5th chapter can be obtained by


New: v0.1  
2016-05-  
22

```
{listings only}
\ObtainTrackedValue[5]{chapter}{subsection}
```

listings only

- #1 `[<options>]`: As of version 0.2, the only option is a counter value, say 5 for the 5th chapter. This must be the total number of the relevant track counter, i.e. the 17th total section etc.
- #2 `{<track counter name>}`: The name of the track level, i.e.  **section**.
- #3 `{<tracked counter name>}`: The name of the tracked counter, i.e.  **figure**.

Please note that the number of entities per track level might be reported wrongly for floats, since those are shifted to some other places. If this should be prevented, a `\FloatBarrier` from  **placeins** might be necessary (see the example file `xcntperchap_driver.tex`)

 This macro is not expandable – for an expandable version use `\ObtainTrackedValueExp→P.7` instead.

Updated:  
v0.2  
2016-06-  
07

`\ObtainTrackedValueExp[<counter value>]{<track level>}{<tracked counter>}`

This command is the expandable version of `\ObtainTrackedValue`<sup>→P.6</sup> and should be used if are calculations, comparisons and write - operations to files are requested.

The meaning of arguments is the same as in `\ObtainTrackedValue`<sup>→P.6</sup>.

New: v0.2  
2016-06-  
07

## 7 Examples

### 7.1 Count the items of an enumerate

```
\documentclass{article}

\usepackage{xcntperchap}
\usepackage{enumitem}

\RegisterCounters{section}{enumi}
\RegisterCounters{subsection}{enumi}

\begin{document}
\tableofcontents

\section{Section 1 -- with \ObtainTrackedValueExp{section}{enumi} items}
  \begin{enumerate}[resume]
    \item Item 1
    \item Item 2
    \item Item 3
  \end{enumerate}

\subsection{Another subsection with \ObtainTrackedValueExp{subsection}{enumi} }

\begin{enumerate}[resume]
\item Item 4
\item Item 5
\end{enumerate}


\section{Section 2 -- with \ObtainTrackedValueExp{section}{enumi} items}
\begin{enumerate}[resume]
\item Item 6
\item Item 7
\end{enumerate}

\subsection{Another subsection with \ObtainTrackedValueExp[2]{subsection}{enumi} }
```

```
⌵Items } % Second total subsection to be used.  
  
\begin{enumerate}[resume]  
\item Item 8  
\item Item 9  
\item Item 10  
\item Item 11  
\item Item 12  
\item Item 13  
\end{enumerate}  
  
\end{document}
```



## 8 To-Do list

- Better error handling (no checks for many features so far).
- More options for fine control of the behaviour package and macros.
- Easy - adaption for other documentclasses, especially for  **beamer**
- Improve documentation
- More examples

If you

- find bugs
- errors in the documentation
- have suggestions
- have feature requests

don't hesitate and contact me via [christian.hupfer@yahoo.de](mailto:christian.hupfer@yahoo.de)


## 9 Acknowledgments

I would like to express my gratitudes to the developpers of fine  $\text{\LaTeX}$  packages and of course to the users at [tex.stackexchange.com](http://tex.stackexchange.com), especially to

- Paulo Roberto Massa Cereda
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- Werner Grundlingh
- Gonzalo Medina

for their invaluable help on many questions on macros.



A special gratitude goes to Prof. Dr. Dr. Thomas Sturm for providing the wonderful  [tcolorbox](#) package which was used to write this documentation.

## 10 Version history

- Version v0.2 2016-06-07
  - Added the expandable version of `\ObtainTrackedValues`
  - Removed the bug concerning the missing reset of the associated counters

New: v0.2  
2016-06-  
07

- Version v0.1 2016-05-22

Bootstrap version, rewrite of previous  [cntperchap](#) with LaTeX - 3 - Kernel features

New: v0.1  
2016-05-  
22

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