The PemberleyThm Package

Adrian Rettich

February 19, 2020

1 Synopsis

The PemberleyThm package is designed to fix some annoying (to me) problems with **amsmath**. Most importantly, it allows for easy consecutive numbering of theorems, lemmas, etc. even in conjunction with **autoref**. It also defines useful presets.

2 Loaded Packages

PemberleyThm loads **pemberley**, **amsthm**, **hyperref**, and **aliascnt**.

Theorem 2.1. *This is a theorem.*

Lemma 2.2. *This is a lemma.*

I am referencing theorem 2.1.

3 Numbering

While **amsthm** numbers theorems, definitions, and so on separately, I like my numbers to be strictly increasing to make looking up stuff easier. This is usually hard to combine with hyper- and autoref, which Pemberley fixes for you.
You can make any of the predefined styles unnumbered by passing its name with a star as an option to **pemberleythm** (cf. section 7).
The default upper level counter for theorem environments is the chapter number if your document class defines chapters, the section otherwise. You can override this via the *counter* option (section 7).

4 Uppercase vs Lowercase

hyperref likes to capitalize names when using \autoref. I find this terrible to read, hence Pemberley converts theorem names to lowercase in references. You can switch back to the default behavior by passing the option *uppercase*.
If the current language is *ngerman* (set via **babel** or **pemberley**), then this behavior is disabled because in German, nouns are always capitalized.

5 Environments

By default, PemberleyThm defines multiple theorem environments for you, namely **theorem**, **lemma**, **definition**, **corollary**, **remark**, **notation**, **example**, and **exercise**. By default, these are all included in the numbering scheme, but you can disable numbering for any number of these by using the options listed in section 7.
You can also create any number of additional theorem styles by using the \newpemberleythm command..

6 Macros

You can create a new theorem environment by using the command

\newpemberleythm{name}{displayname}{style}.

The styles are those of **amsthm**.
For example, the command sequence

```
\newpemberleythm{magic}{Black Magic}{plain}
\begin{magic}
This really works.
\end{magic}
```

results in the following:

Black Magic 6.1. *This really works.*

The starred version \newpemberleythm* creates an unnumbered theorem environment.

7 Options

PemberleyThm accepts the same options as the base Pemberley package (with the same effects), as well as the following:

uppercase Always capitalize references.

counter=*counter* Pass the name of the counter you would like to use as the first level, for example *counter=section* to number by sections rather than chapters.

theorem*,lemma*,corollary*,definition*,remark*,notation*,example*,exercise* Do not number the specified environment.

theorem=*name*,lemma=*name*,corollary=*name*,definition=*name*,

remark=*name*,notation=*name*,example=*name*,exercise=*name* Use this option to change the displayed name for the specified environment. Note that if the display name contains spaces, it must be enclosed in braces.

theoremstyle=*style*,lemmastyle=*style*,corollarystyle=*style*,definitionstyle=*style*,
remarkstyle=*style*,notationstyle=*style*,examplestyle=*style*,exercisestyle=*style* Use this option to change the display style (cf. **amsthm**) for the specified environment.

8 License

9 Thanks

Many thanks to Markus Kurtz, who considerably cleaned up my messy theorem code and made it extensible!