

1 Demo of proofAtTheEnd

NB: This file is just a demo of proofAtTheEnd. You can find the documentation, sources, and example of proofAtTheEnd at <https://github.com/leo-colisson/proofAtTheEnd>.

Theorem 1.1 (Yes I can have a title). *Simplicity is luxury, I am a default theorem.*

See proof on page 3

And I can refer to my theorems using classic labels, like in Theorem 1.1.

Theorem 1.2 (Different categories). *You can also create several categories, and put the proofs in different sections.*

$$2\Delta = \Delta + \Delta$$

See proof on page 4

Theorem 1.3 (I am restatable). *I am a restatable theorem, go in Appendix you will see ;-)*

See proof on page 3

Theorem 1.4. *You can easily turn it back into a normal theorem!*

Proof. And keep the proof with you! □

You can also put comments that appear only in the appendix.

Or that appears in both and with references Theorem 4.1!

Theorem 1.5. *And you can duplicate the proof, here AND in appendix ;)*

See proof on page 3

Proof. I am a proof that is everywhere, practical if you want to use syntex while you write the proof ;) □

Lemma 1.6. *You can mix it with lemmas... Or any other theorem-like environment easily!*

See proof on page 3

And also you can put both the theorem and the proof at the end, like for Theorem 4.1!

You can also remove the link to the theorem:

Theorem 1.7. *I don't like links in proofs.*

See proof on page 3

Or keep the link, but remove the reference (practical for stored versions):

Theorem. *I don't like numbers.*

See proof on page 3

Theorem 1.8. *Change the text/languages of the link: Il est même possible de changer la langue du texte du lien!*

Voir preuve à la page 3

And of course it is easy to define custom shortcuts, using in prelude:

```
\NewDocumentEnvironment{frenchthm}{0{}}+b}{%  
  \begin{theoremEnd}[french]{thm}[#1]%  
    #2%  
  \end{theoremEnd}%  
}
```

Theorem 1.9 (My own environment). *You can then create your own environment from other styles using*

Proof. That's quicker :D □

Theorem 1.10 (My own environment). *You can use options also with your custom environments.*

See proof on page 3

Theorem 1.11. *And you can remove the title and have options.*

See proof on page 3

Theorem 1.12 (Yes I can have no proof). *Proof is useless. You can do do it. And see, I can include other environments inside me ;)*

A B
C D

Theorem 1.13 (Manual restate). *A theorem can be manually restated*

See proof on page 3

Theorem 1.14. *I can also write a sketch of proof, and put the full proof in appendix.*

Proof. Hint: look at the alias options. □

See full proof on page 4

2 Section with restate before theorem

Theorem 3.1 (Title). *This theorem has been introduced in section 2 before the real definition, but the real definition is in section 3, more precisely here: Theorem 3.1.*

Theorem 2.1. *And this is a normal theorem*

See proof on page 4

3 Section with late theorems

Theorem 3.1 (Title). *This theorem has been introduced in section 2 before the real definition, but the real definition is in section 3, more precisely here: Theorem 3.1.*

See proof on page 4

4 Section with standard proofs

Proof of Theorem 1.1. Let's be simple. □

Theorem 1.3 (I am restatable). *I am a restatable theorem, go in Appendix you will see ;-)*

Proof of Theorem 1.3. I am a proof of a restatable theorem. □

See, I am a simple comments with math $\delta = b^2 - ac$ and references Theorem 4.1. You can also use the environment syntax. Or that appears in both and with references Theorem 4.1!

Proof of Theorem 1.5. I am a proof that is everywhere, practical if you want to use syntex while you write the proof ;) □

Proof of Lemma 1.6. See, I'm the proof of a lemma! □

Theorem 4.1. $\delta = b^2 - 4ac$ *You can also put theorems only at the end.*

Proof of Theorem 4.1. See, I'm the proof of a lemma that is only at the end! □

Theorem 1.7. *I don't like links in proofs.*

Proof. Yes, I like being lost, but not too lost, so I prefer to restate as well! □

Proof. Yes, I hate numbers, but I like links. □

Preuve de Theorem 1.8. Si c'est pas beau ;) □

Proof of Theorem 1.10. That's quicker with the proof at the end :D □

Proof of Theorem 1.11. Just leave empty title. □

Theorem 4.2 (My second own environment). *My normal theorem is moved at the end!*

Proof of Theorem 4.2. Custom environments are practical no ;) □

Proof of Theorem 1.13. Use restate command for that! (see section 6 for an example) □

Proof of Theorem 1.14. You just use “see full proof” as an option □

Proof of Theorem 2.1. With a normal proof □

Proof of Theorem 3.1. To state a theorem before the initial definition, use the `theoremEndRestateBefore` environment where you first want to state the theorem, with a unique name in the second mandatory argument, and when you want to insert the theorem for the second time, use the usual `theoremProofEnd` command with the same unique name as before in place of the theorem definition and the “restated before” option. □

5 Section with important proofs only

Proof of Theorem 1.2. See, I am in another section! And I refer to Theorem 1.1 even in the proof. □

6 Section with manual restate

I like to manually restate theorems:

Theorem 1.13 (Manual restate). *A theorem can be manually restated*