Simple slides with FoilTeX

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Abstract

Isabelle is a formal document preparation system. This example shows how to use it together with FoilTEX to produce slides in LATEX. See https://ctan.org/pkg/foiltex for further information.

Introduction

Some slide

Point 1: ABC

- something
- to say . . .

Point 2: XYZ

- more
- to say . . .

Introduction

Another slide

Key definitions:

Informal bla bla.

definition foo = True — side remark on foo

definition bar = False — side remark on bar

lemma $foo \langle proof \rangle$

Application: Cantor's theorem

Informal notes

Cantor's Theorem states that there is no surjection from a set to its powerset. The proof works by diagonalization. E.g. see

- http://mathworld.wolfram.com/CantorDiagonalMethod.html
- https://en.wikipedia.org/wiki/Cantor's_diagonal_argument

Application: Cantor's theorem

Formal proof

```
theorem Cantor: \nexists f:: 'a \Rightarrow 'a \ set. \ \forall \ A. \ \exists \ x. \ A = f \ x proof assume \exists f:: 'a \Rightarrow 'a \ set. \ \forall \ A. \ \exists \ x. \ A = f \ x then obtain f:: 'a \Rightarrow 'a \ set where *: \ \forall \ A. \ \exists \ x. \ A = f \ x. let ?D = \{x. \ x \notin f \ x\} from * obtain a where ?D = f \ a by blast moreover have a \in ?D \longleftrightarrow a \notin f \ a by blast ultimately show False by blast qed
```

Conclusion

Lorem ipsum dolor

- Lorem ipsum dolor sit amet, consectetur adipiscing elit.
- Donec id ipsum sapien.
- Vivamus malesuada enim nibh, a tristique nisi sodales ac.
- Praesent ut sem consectetur, interdum tellus ac, sodales nulla.