Abstract. Isabelle is a formal document preparation system. This example shows how to use it together with the Springer \LaTeX LNCS style. See https://www.springer.com/gp/computer-science/lncs/conference-proceedings-guidelines for further information.

Keywords: Document preparation

1 Some section

1.1 Some subsection

1.2 Some subsubsection

Some subsubsubsection

A paragraph. Informal bla bla.
definition foo = True — side remark on foo
definition bar = False — side remark on bar
lemma foo (proof)

Another paragraph. See also [1, §3].

2 Formal proof of Cantor’s theorem

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

– https://en.wikipedia.org/wiki/Cantor%27s%5fdiagonal%5fargument
theorem Cantor: \( \exists f :: 'a \Rightarrow 'a\ set. \forall A. \exists x. A = f x \)

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 \( \ast \) obtain \( a \) where \( ?D = f a \) by blast
moreover have \( a \in ?D \iff a \notin f a \) by blast
ultimately show \( \text{False} \) by blast
qed

2.1 Lorem ipsum dolor


Acknowledgments. Isabelle/Scala was of great help to assemble the llncs system component; see also ~~/src/Pure/Admin/component_llncs.scala and $ISABELLE_LLNCS_HOME.

Disclosure of Interests. I have a long-standing interest in the wealth and prosperity of the Isabelle open-source project.

References