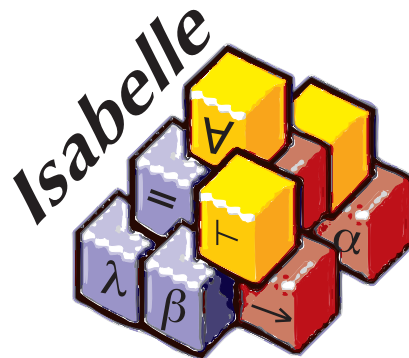


Automatic Deduction — LVA 703522

Introduction to Isabelle

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pdf

Document Generation

Generating PDF Documents

```
isatool mkdir [ <options> ] [ <logic> ] <name>
```

creates **IsaMakefile** and **session directory** *<name>*.

- ▶ Put your theory files in the session directory.
- ▶ Edit *<name>/ROOT.ML* and *<name>/document/root.tex*.
- ▶ *ROOT.ML* must contain ML code to load your theory files.
- ▶ Use `isatool make` to run session.

When running the session

- ▶ Isabelle compiles and checks theory files.
- ▶ Isabelle produces \LaTeX output.
- ▶ This is processed by `pdflatex`.

Debugging \LaTeX Errors

Instruct Isabelle to keep generated \LaTeX output:

- ▶ Uncomment `-D generated` option of `usedir` command.
- ▶ Re-run session.
- ▶ \LaTeX sources will be left in directory `\langle name \rangle/generated`.
- ▶ Run `pdflatex root.tex` in that directory.

Writing a Document

Formal Comments

Text within the following commands will be printed.

text $\{ * \dots * \}$ **txt** $\{ * \dots * \}$ **--** " \dots "

Anitquotations

Formal comments may quote terms, formulas, theorems, ...

$@\{\text{typ } \tau\}$	print type τ
$@\{\text{term } t\}$	print term t
$@\{\text{prop } \phi\}$	print formula ϕ
$@\{\text{thm } a\}$	print theorem a
$@\{\text{thm [source] } a\}$	check availability of a , print its name
$@\{\text{text } s\}$	print string s

Further Reading

- ▶ LNCS 2283, Section 4.2 (General document preparation)
- ▶ Isabelle System Manual (Theory graph browser)
- ▶ Isabelle Isar Reference Manual (Anitquotations)