

Barrifier
User Manual

Stefan Ratschan

July 13, 2018

Chapter 1

Running a First Example

BARRIFIER reads from stdin and writes to stdout. It also accepts command line options. The most important option is `-h` upon which BARRIFIER lists all further options together with their description.

Example inputs can be found in the `examples` directory of the distribution. The input consists of several sections whose purpose is obvious from the examples. It is possible to specify the template BARRIFIER should use by setting the option `template` in the section `OPTIONS`. For example, the option `template: (2 0) (1 1) (0 2)` specifies a polynomial template of total degree 2. Please to no explicitly state the monomial `(0 0 0)` which BARRIFIER adds by default.

Currently, BARRIFIER always has to be called from the main distribution directory. It communicates with external software using files that it creates in that directory. Especially, it calls the external software OptiMathSAT by creating a file `smt_input` and then reading the result from the file `smt_solved`.

Bibliography

- [1] S. Ratschan. Simulation based computation of certificates for safety of dynamical systems. In A. Abate and G. Geeraerts, editors, *Formal Modeling and Analysis of Timed Systems: 15th International Conference, FORMATS 2017*, volume 10419, pages 303–317. Springer International Publishing, 2017.