

Progress Report 8

Xie Li

November 3, 2020

Overview of the Progress

- ▶ After last survey of SV-COMP, implemented some utils help parse the information of SV-COMP cases.
- ▶ Debugging the tool with Weizhi.
- ▶ Other things...

Checking $G(\neg \text{reachError}())$

Since the uniqueness of function `reachError()`, checking can be done by

- ▶ Sample the paths from automaton. Sampler return the path once `reachError()` is met.
- ▶ Check the feasibility of the `reachError()` path.

Parsing

```
format_version: '1.0'

input_files: 'linear-inequality-inv-a.c'

properties:
- property_file: ../properties/no-overflow.prp
  expected_verdict: true
- property_file: ../properties/termination.prp
  expected_verdict: true
- property_file: ../properties/unreach-call.prp
  expected_verdict: true
- property_file: ../properties/valid-memsafety.prp
  expected_verdict: true
```

Use C++ tool: `yaml-cpp` to do the parsing and extract:

- ▶ path of input file
- ▶ path of property file
- ▶ expected verdict

Current Problem Encountered

Interprocedural Analysis

- ▶ `void checkAssertion(bool condition)`
- ▶ In the translation, for every function we construct an automaton for the function.
- ▶ When sampling the path in the automaton. Merge the automaton of called procedure into the main automaton?