infChecker at the 2023 Confluence Competition*

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infChecker is a tool for checking *(in)feasibility* of sequences of rewrite and relations with respect to *first-order theories*, called goals [3]. infChecker participates in the INF category at the Confluence Competition but it is also used as as a external tool in CONFident, which participates in several categories in the Competition.

The tool is available here:

http://zenon.dsic.upv.es/infChecker/.

It is written in Haskell implementing the Feasibility Framework:

- we consider *f-problems* that are form by a theory and and goal. In the competition, goals only contain reachability conditions.
- processors are partial functions that are applied to problems. Our processors encapsulate techniques for simplification, splitting, satisfiability and provability.

Some processors are mechanized using external tools like AGES [2], Prover9 and Mace4 [4]. Latest description of the tool can be found in [1].

References

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