

QBFEVAL'16 Submission: Variants of DepQBF [★]

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Overview

We submit several variants of the QBF solver DepQBF¹ to QBFEVAL'16. DepQBF is a search-based solver with conflict-driven clause and solution-driven cube learning (QCDCL) [3, 5, 10]. All submitted variants of DepQBF are based on its latest publicly available version 5.0. Compared to previous versions, version 5.0 [7] comes with an advanced technique for cube learning by tightly integrating blocked clause elimination [2, 4] into QCDCL.

The submitted variants of DepQBF extend version 5.0 by additionally integrating the SAT solver PicoSAT² [1] and the QBF preprocessor Bloqqer³ [2]. PicoSAT and Bloqqer are applied dynamically during the run of QCDCL to derive clauses and cubes. This approach extends the idea of [7] and is the topic of a paper currently under review at the SAT conference 2016 [8].

Additionally, we combine DepQBF with the preprocessors QxBF⁴ [6] and Bloqqer in shellscripts.

We submit the variants of DepQBF to the following tracks of QBFEVAL'16:

- Prenex CNF track
- 2QBF track
- Incremental Solvers
- Evaluate and Certify: for this track, we make use of the additional publicly available tool suite QBFCert⁵ [9]
- Random QBFs

References

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[★] Supported by the Austrian Science Fund (FWF) under grant S11409-N23.

¹ <http://lonsing.github.io/depqbf/>

² <http://fmv.jku.at/picosat/>

³ <http://fmv.jku.at/bloqqer/>

⁴ <http://fmv.jku.at/qxbf/>

⁵ <http://fmv.jku.at/qbfcert/>

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