MaxSAT

On Minimal Model Generation and MaxSAT Solver

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We present an implementation method of minimal model generation based on consideration on features of model generation method and DPLL (Davis Putnam Logemann Loveland) procedure. We give a performance comparison of MiniMG and MiniSAT solvers. The former is obtained by specializing a first order theorem prover MGTP to solve propositional one. The latter is a SAT solver based on DPLL. Several constraints satisfaction problems contain cardinality constraints. Solving such problems with SAT solvers requires SAT encodings for cardinality constraints. We introduce Modulo Totalizer, a modification of Totalizer which is a well known SAT encoding of cardinality constraints, and evaluate its performance by solving MaxSAT instances.

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