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Tutorials for “Automated Reasoning II”
Exercise sheet 8

Exercise 8.1: (*P*)

Consider the purely equational theory and the clauses $g(a) \approx c$, $f(g(a)) \not\approx f(c) \vee g(a) \approx d$, $c \not\approx d$ and check via CDCL(CC) whether this clause set is satisfiable.

Exercise 8.2: (*P*)

Consider the theory of linear rational arithmetic and the clauses $3x_1 + 4x_2 - 1 > 0$, $-x_1 + x_2 + 1 \geq 0$, $2x_2 - x_3 \approx 0$, $x_3 - x_1 < 2 \vee x_2 > 1$ and check via CDCL(LA) whether this clause set is satisfiable.

Exercise 8.3: (*P*)

Consider the theory of linear rational arithmetic and the clauses $2x_1 + x_2 + 2x_3 \geq 6$, $2x_1 + x_2 - x_3 \leq 3$, $x_1 + 2x_2 + x_3 \approx 6$, $x_3 - x_1 > 0 \vee x_2 - x_3 < 1$ and check via CDCL(LA) whether this clause set is satisfiable.