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Tutorials for "Decision Procedures SS19"
Exercise sheet 3

Exercise 3.1:

Check satisfiability of the following problems using both the array decision procedure from the lecture and CVC4. All a, i, v (possibly indexed) are constants of the respective sorts.

1. $\text{read}(\text{store}(a, i, v), i) \approx \text{read}(a, i) \wedge \text{read}(a, i) \not\approx v$

2. $\text{store}(\text{store}(a, i_1, v_1), i_2, v_2) \approx \text{store}(\text{store}(a, i_2, v_2), i_1, v_1)$

3. $\text{read}(\text{store}(\text{store}(a, i_1, v_1), i_2, v_2), i_1) \approx \text{read}(\text{store}(\text{store}(a, i_2, v_2), i_1, v_1), i_1)$

4. $\text{read}(\text{store}(\text{store}(a, i_1, v_1), i_2, v_2), i_1) \approx \text{read}(\text{store}(\text{store}(a, i_2, v_2), i_1, v_1), i_1) \wedge i_1 \approx i_2 \wedge v_1 \not\approx v_2$