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**Tutorials for “Automated Reasoning II”
Exercise sheet 3**

Exercise 3.1:

Find a simple example that demonstrates that the deterministic Nelson-Oppen combination procedure is incomplete if one of the theories is not convex.

Exercise 3.2:

Is the theory of abelian groups stably infinite? Give an explanation.

Exercise 3.3:

Is the theory described by the following set of axioms stably infinite? Give an explanation.

$$\begin{aligned}\forall x (x * 0 \approx 0) \\ \forall x (x * 1 \approx x)\end{aligned}$$

Bring your solution (or solution attempt) to the tutorial on May 19.