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April 16, 2012

**Tutorials for “Automated Reasoning”
Exercise sheet 1**

Exercise 1.1: (2 P)

Present an example showing that the rules Deduce, Conflict, Backtrack, and Fail are not confluent.

Exercise 1.2: (2+2 P)

1. Add a rule Propagate to the rule set that exploits all unique decisions. For example, if a row, column, box is filled except one square, the application of the rule fills the remaining square with the correct value.
2. Prove for the new rule system consisting of Deduce, Propagate, Conflict, Backtrack, and Fail is sound.

Submit your solution in lecture hall 001 during the lecture on April 23. Please write your name and the date of your tutorial group on your solution.

Note: Joint solutions are not permitted (work in groups is encouraged).