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**Tutorials for “Automated Reasoning II”**  
**Exercise sheet 5**

**Exercise 5.1:**

Demonstrate that DPLL(T) becomes unsound if the DPLL procedure uses the pure literal rule.

**Exercise 5.2:**

Use the DPLL(EUF) calculus to determine whether the following set of clauses is satisfiable or not:

$$f(a, b) \not\approx f(a', b') \quad (1)$$

$$g(g(c)) \not\approx c \quad (2)$$

$$g(d) \approx c \vee g(g(c)) \approx c \quad (3)$$

$$a \approx a' \vee c \approx d \quad (4)$$

$$b \approx b' \vee c \approx d \quad (5)$$

Bring your solution (or solution attempt) to the tutorial on June 2.