max planck institut
informatik

Universität
des
Saarlandes
FR Informatik

Christoph Weidenbach **June 18, 2019**

Tutorials for "Decision Procedures SS19"
Exercise sheet 6

Exercise 6.1:
Provide an example of a clause set that shows non-compactness with respect to SUP(LIA). A single integer parameter n in the constraint suffices.

Exercise 6.2:
Apply SUP(LRA) to the formula

$$f(c_1, 0) \geq c_3 \wedge f(c_2, 0) \leq c_3 \wedge c_1 \approx c_2 \wedge c_3 - f(c_1, 0) \geq 1$$

where I assume appropriate sorts for the variables and function declarations.

Exercise 6.3:
pply SUP(LRA) to the formula

$$c_2 \geq c_1 \wedge c_1 - c_3 \geq c_2 \wedge g(f(c_1) - f(c_2)) \not\approx g(c_3) \wedge c_3 \geq 0$$

where I assume appropriate sorts for the variables and function declarations.