

Homework 6

October 28, 2019



Deadline

Due: November 4, 2019, 23:59. Good luck!

Problem 1

Triggers are also called patterns. Describe how to use trigger matching to solve this problem. You need to select the trigger, generate instances and give the result. You don't need to draw the E-graph.

$$(\forall x)(f(g(x)) = x) \wedge g(a) = c \wedge g(b) = c \wedge a \neq b$$

Solution.

Your solution here.

Problem 2

Determine if the following Hoare triples are valid.

1. $\{a = 1\} a := a + 1 \{a = 2\}$

2. $\{a = 1\} a := a + 1 \{a = 3\}$
3. $\{a - b > 3\} a := a - b \{a > 2\}$
4. $\{a = 1\} \text{ while}(1) \text{ skip } \{a = 3\}$
5. $\{a \leq 10\} \text{ while}(a! = 10) a := a + 1 \{a = 10\}$

Solution.

Your solution here.