

Exercise : Operational Semantics

Consider the following SIMP program:

$$x := 7; \text{ while } !y < !x \text{ do } x := !x - !y$$

and an initial store:

$$s = \{ y \mapsto 5 \}$$

Evaluate this program using the abstract machine, small-step operational semantics, and big-step operational semantics.

Abbreviation	Code
P	$x := 7; \text{ while } !y < !x \text{ do } x := !x - !y$
W	$\text{ while } !y < !x \text{ do } x := !x - !y$
B	$!y < !x$
C_1	$x := 7$
C_2	$x := !x - !y$

