

HW 3: Induction

CSE210A

- In the WHILE language, prove or disprove the equivalence of the two commands:

$t := x; x := y; y := t$

and

$t := y; y := x; x := t$

(where x , y , and t are distinct locations).

- In the WHILE language, prove that if

$$\langle \text{while } b \text{ do } y := y - x, s \rangle \Downarrow s'$$

then there exists an integer k such that

$$s(y) = s'(y) + k * s(x)$$

Please make it explicit if/when you reason by induction on derivations, stating your induction hypothesis.

Submit on ecommons a pdf typeset with latex.