

14F-1 Bookkeeping

- 0 pts Correct

Exercise 4F-2.

$$\text{VC}(\text{let } x = e \text{ in } c, B) = \text{VC}([e/x]c, B)$$

Exercise 4F-3.

1. $c : \text{let } x = z \text{ in } y = 2x$
2. $B : x \geq 5, y \leq 10$
3. $\sigma : x := 3, y := 0, z := 5$
4. $\text{VC}(c, B) = \text{VC}(\text{let } x = z \text{ in } y = 2x, x \geq 5, y \leq 10) = [z/x] \text{VC}(y = 2x, x \geq 5, y \leq 10) = [z/x] [2x/y] (x \geq 5, y \leq 10) = [z/x] (x \geq 5, 2x \leq 10) = [z/x] (x \geq 5, x \leq 5) = [z/x] (x := 5) = (z := 5)$, thus $\sigma \models \text{VC}(c, B)$
5. $\sigma' : x := 3, y := 10, z := 5$
6. $x \not\geq 5$, thus $\sigma' \not\models B$.

Exercise 4F-4.

$$\frac{\vdash \{A\} c \{B\} \quad \vdash B \wedge b \implies A \quad \vdash B \wedge \neg b \implies C}{\vdash \{A\} \text{ do } c \text{ while } b \{C\}}$$

2 4F-2 VCGen for Let

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3 4F-3 VCGen Mistakes

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4 4F-4 Axiomatic Do-While

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