

**Homework 17**  
**CS 336**

Name \_\_\_\_\_  
Seating Section: **R M L**

**The important issue is the logic you used to arrive at your answer.**

1. Prove that the program segment

```
y := 1
z := x+y
```

is correct with respect to precondition " $x = 0$ " and postcondition " $z = 1$ ".

2. Prove that the program segment

```
if x < 0 then x := 0
```

is correct with respect to precondition "*true*" and postcondition " $x \geq 0$ ".

3. Prove that the program segment

```
x := 0
z := x+y
if x < 0 then
  z := z+1
else
  z := 7
```

is correct with respect to precondition " $y = 3$ " and postcondition " $z = 7$ ".