

Real Problem Set on If statements

1. For what possible values of x is the statement A executed in the following piece of code?

```
if ( $x \geq 0$ ):  
    if ( $x < 10$ ):  
        statement A  
    else:  
        statement B
```

- Any value of x less than 0
 - Any value of x greater than or equal to 0
 - Any value of x less than 10
 - Any value of x greater than or equal to 10
 - Any value of x greater than or equal to 0 and less than 10
2. For what possible values of x is the statement B executed in the code from the previous problem?
- Any value of x less than 0
 - Any value of x greater than or equal to 0
 - Any value of x less than 10
 - Any value of x greater than or equal to 10
 - Any value of x greater than or equal to 0 and less than 10

3. For what possible values of x is the statement A executed in the following piece of code?

```
if ( $x \geq 0$ ):  
    if ( $x < 10$ ):  
        statement A  
    else:  
        statement B
```

- Any value of x less than 0
 - Any value of x greater than or equal to 0
 - Any value of x less than 10
 - Any value of x greater than or equal to 10
 - Any value of x greater than or equal to 0 and less than 10
4. For what possible values of x is the statement B executed in the code from the previous problem?
- Any value of x less than 0
 - Any value of x greater than or equal to 0
 - Any value of x less than 10
 - Any value of x greater than or equal to 10
 - Any value of x greater than or equal to 0 and less than 10

The next three questions refer to the following two code segments.

```
I) if ( hour < 11 ):  
    s = Breakfast time  
    if (hour < 14 ):  
        s = Lunch time  
    if (hour < 20 ):  
        s = Dinner time  
else:  
    s = "Bedtime"
```

```
II) if (hour < 11 ):  
    s = Breakfast time  
    elif (hour < 14 ):  
        s = Lunch time  
    elif (hour < 20 ):  
        s = Dinner time  
else:  
    s = "Bedtime"
```

5. Which of the following is true?
 - a. Code Segment I will always set s to either "Dinner time" or "Bedtime".
 - b. Code Segment II will always set s to either "Dinner time" or "Bedtime".
 - c. The value of s will be the same for either code segment, no matter what the value of hour is.

6. How many comparisons (hour < X) does the first code segment (I) do when hour is 13?
 - a. 0
 - b. 1
 - c. 2
 - d. 3
 - e. 4

7. How many comparisons (hour < X) does the second code segment (II) do when hour is 13?
 - a. 0
 - b. 1
 - c. 2
 - d. 3
 - e. 4