Chapter 4 Questions

Checking your understanding of chapter 4 concepts

Is the following statement correct or incorrect:

x <= y is the same as y > x

Incorrect

Is the following statement correct or incorrect:

x >= y is the same as y <= x

Correct

If it is true that $x > y$ and it is also true that $x < z$, does that mean $y < z$ is true?

Yes

If it is true that `x >= y` and it is also true that `z == x`, does that mean that `z == y` is true?

No

What will the code to the right output?

```cpp
#include <iostream>
using namespace std;

int main ()
{
    int a = 0, b = 2, x = 4, y = 0;

    cout << (a == b) << endl;
    cout << (a != y) << endl;
    cout << (b <= x) << endl;
    cout << (y > a) << endl;
    return 0;
}
```

0

0

1

0

———

TRUE or FALSE: Both of the following if statements perform the same operation.

```
if (sales > 10000)
    commissionRate = 0.15;

if (sales > 10000) commissionRate = 0.15;
```

True

TRUE or FALSE:
Both of the following if statements perform the same operation.

```
if (calls == 20)
    rate *= 0.5;

if (calls = 20)
    rate *= 0.5;
```

False

Write an if statement that performs the following logic: if the variable `price` is greater than 500, then assign 0.2 to the variable `discountRate`.

```
if (price > 500)
discountRate = 0.2;
```

The following code segment is syntactically correct, but it appears to contain a logic error. Can you find the error?

```
if (interestRate > .07)
    cout << "This account earns a $10 bonus.\n";
    balance += 10.0;
```

Only the first statement after the if statement is conditionally executed. Both of the statements after the if statement should be enclosed in a set of braces.

The Big Money Question!!!

Write an if statement that performs the following logic: if the variable `sales` is greater than 50,000, then assign 0.25 to the `commissionRate` variable, and assign 250 to the `bonus` variable.

```
if (sales > 50000)
{
  commissionRate = 0.25;
  bonus = 250;
}
```

That sums up

4.1 - 4.3

This means you are up to date through section 4.3 in the textbook! Congrats!