Montgomery College, CMSC 203
Worksheet1
Module 2

Objectives

- Conditional statements
- Relational Operators
- Logical operators
- Switch statement
- Comparing String objects
- Scope

Concept Questions

1. Write an expression to test if integer variable `score` is equal to 65.

2. Write an expression to test if integer variable `score` is greater than or equal to 70.

3. Write an expression to test if character variable `firstInit` is not equal to letter a.

4. If `chr` is a character variable, which of the following if statements is written correctly?
   A) `if (chr = "a")`
   B) `if (chr == "a")`
   C) `if (chr = 'a')`
   D) `if (chr == 'a')`

5. What will be the value of x after the following code is executed?

```
int x = 75;
int y = 60;
if (x > y)
    x = x - y;
```

A) 75
B) 15
C) 60
D) 135

6. What is the output of the following code :

```
int x = 3, y=9;
if ( x> 3)
{
  y = 2;
}
System.out.println("y is "+ y );
```

7. In an if/else statement, if the boolean expression is false:

A) the first statement or block is executed
B) the statement or block following the else is executed
C) all statements or blocks are executed
D) no statements or blocks are executed

8. Complete the following code to do the following:
If the value of x is 4 show message “apple” otherwise display “Orange”.

```
if ( x == 3) {
  System.out.println("apple" );
}
```

_____

9. Complete the following code to do the following:
If the variable `price` is less than 300 set the variable `buyProduct` to `true` otherwise if `price` is less than 400 set the variable `getApproval` to `true`, otherwise set the variable `doneBuyProduct` to false.

```
if  _________________
{

    _________________
}
else if _____________
{

    _____________
}
else {

   _____________
}
```

10. If `str1` and `str2` are both `String`s, which of the following will correctly test to determine whether `str1` is equal to `str2`?

(1) `(str1 == str2)`
(2) `(str1.equals(str2))`
(3) `(str2.equals(str1))`
A) 1, 2, and 3 will all work
B) 2
C) 3
D) 2 and 3

11. To do a case insensitive compare which of the following could be used to test the equality of two strings, `str1` and `str2`?

A) `(str1.equalsIgnoreCase(str2))`
B) `(str1.equalsIgnoreCase(str2) == 0)`
C) A and B

12. Rewrite this ternary operator initialization of the variable `max by using if statements`?

```
int a = 1, b = 2;
```

```
int max = (a > b) ? a : b
```

13. What will be the value of `pay` after the following statements are executed?

```
int hours = 45;
double pay, payRate = 10.00;
double overtime = 75;
pay = hours <= 40 ? hours * payRate :
  overtime + 40 * payRate;
```

A) 1150.00
B) 450.00
C) 465.00
D) 475.00

14. What would be the value of `x` after the following statements were executed?

```
int x = 10;
switch (x)
{
   case 10:
       x += 15;
   case 12:
       x -= 5;
       break;
   default:
       x *= 3;
}
```

A) 5
B) 20
C) 25
D) 30

Programming Questions

1. Following question is from module 1 worksheet 2 with the added step 3 and 6. Complete the code based on the following:
   1. Prompt the user to enter his/her name as (FirstName LastName).
   2. Display the number of characters of the name entered.
   3. If the number of characters in the name is greater than 20 display the message "Long name!" otherwise if the number of characters is less than 10 display the message "short name!" and if the number of characters is within 10 and 20 display the message "just right!".
   4. Display the name as all uppercase letters
   5. Display the first character of the first name
   6. If the first character is 'a' or 'b' display message "`first character of your name is a or b`", if the first character is 'c' display the message "`first character of your name is c`", otherwise display "`something else`". You should use a `switch` statement for implementing this step.