# COMP 248 - Winter 2016

## Tutorial 4

# Question 1

What output will be produced by the following code?

```
public class SelectionStatements
{
   public static void main(String[] args)
   {
      int number = 24;
      if(number % 2 == 0)
            System.out.print("The condition evaluated to true!");
      else
            System.out.print("The condition evaluated to false!");
    }
}
```

# Question 2

What output will be produced by the following code if the number is changed to “25”?

```
public class SelectionStatements
{
   public static void main(String[] args)
   {
      int number = 24;
      if(number % 2 == 0)
            System.out.print("The condition evaluated to true!");
      else
            System.out.print("The condition evaluated to false!");
    }
}
```

# Question 3

Write a multi-way if-else statement that evaluates a persons weight on the following criteria:

- A weight less than 116 pounds,
  **output**: Eat 5 banana splits!

- A weight between 116 pounds and 130 pounds,
  **output**: Eat a banana split!

- A weight between 131 pounds and 200 pounds,
  **output**: Perfect!

- A weight greater than 200 pounds,
  **output**: Plenty of banana splits have been consumed!

# Question 4

What is the value of these expressions?

- 1+2 > 4-2 && 12 < 23
- 1+2 > 4-2 || 12 < 23
- 1+2 > 4-2 && 12 > 23
- 1+2 > 4-2 || 12 > 23

# Question 5

What is the output of this code fragment?

```
int sum = 14;

if ( sum < 20 )
        System.out.print("Under ");
else
        System.out.print("Over  ");

      System.out.println("the limit.");
```

# Question 6

What is the output of this code fragment?

```
int sum = 20;
if ( sum < 20 )
        System.out.print("Under ");
else {
        System.out.print("Over  ");
        System.out.println("the limit.");
}
```

# Question 7

Assume the following fragment of code:

```
Scanner myKeyboard = new Scanner(System.in);
String msg = myKeyboard.next();
int x = 0;
int y = 10;
int z = 100;
switch(msg.charAt(0))
{
  case 'a' :
  case 'b' :
    System.out.println("case 1");
    x = (msg.equals("abc") ? (5 + y++) : (--y + z--));
    break;
  case 'c' :
    System.out.println("case 2");
    y /= 5;
  default:
    System.out.println("default");
}
System.out.println(x + " " + y + " " + z);
```

# Question 7

a) What is the output if the user enters the string: **abc**

b) What is the output if the user enters the string: **aBC**

c) What is the output if the user enters the string: **ccc**

# Question 8

Assume the following fragment of code:

```
short age;
double rebate = 0;
boolean isAStudent;
int workExperience;
 …
if (age < 10)
   rebate = 20;
if (age > 70)
   rebate = 20;
if (age < 20)
   if (isAStudent)
      if (workExperience > 4)
         rebate = 15;
```

**Rewrite the instructions in red by reducing the number of if statements to a minimum.**
**Your new code should behave exactly as the above code in every possible situation.**