Assignment 1

Arrays, Loops, & Method Overloading

LAST DATE OF SUBMISSION: June 10th, 2019

1. Find out the outputs:

```
public class ArrayTraceA
{
  public static void main(String args[])
  {
    int [] myArray = new int[10];
    int index1 = 0, index2 =0;
    index1 = 1;
    while (index1 < 10){
    myArray[index1] = index1 + 3;
    index2 = 1;
      while (index2 < index1 ){
        myArray[index1] = myArray[index1] + myArray[index2] -
index1;
        index2 = index2 + 1;
    }
    System.out.println(myArray[index1]);
    index1 = index1 + 1;
    }
  }
}
```

2. Find out the output of the following code:

```
public class Quiz5a
{
  public static void main(String args[])
  {
    int [] myArray = new int[10];
    int [] b;
    int index1 = 0, index2 =0;
    index1 = 1;
    b =  myArray;
    while (index1 < 10){
    myArray[index1] = index1 + 2;
    index2 = 1;
      while (index2 < index1 ){
        myArray[index1] = b[index1] + myArray[index2] - index1;
        index2 = index2 + 1;
    }
    System.out.println(myArray[index1]);
    index1 = index1 + 1;
    }
  }
}
```

3. Find out the output of the following code:

```
public class Quiz5a
{
  public static void main(String args[])
  {
    int [] myArray = new int[10];
    int [] b;
    int index1 = 0, index2 =0;
    index1 = 1;
    b =  myArray;
    while (index1 < 10){
    myArray[index1] += myArray[index2%10]+ 2;
    index2 = 1;
      while (index2 < index1 ){
        myArray[index1] = b[index2%7]  - index1;
        index2 = (index2++) + 1;
    }
    System.out.println(myArray[index1]);
    index1 = (++index1) + 1;
    }
  }
}
```

4.

```
//Run the methodA() and methodB on an Instance of Test thrice per method
and trace the program.
//************************************************************************
***************
public class Test{
  public int sum;
  public int y;
  public void methodA(){
    int x=0, y =0;
    y = y + 7;
    x = y + 11;
    sum = x + y;
    System.out.println(x + " " + y+ " " + sum);
  }
  public void methodB(){
    int x = 0;
    y = y + 11;
    x = x + 33 + y;
    sum = sum + x + y;
    System.out.println(x + " " + y+ " " + sum);
  }
}
```

5. Consider the following code:

```
public class QuizB{
  public int sum;
  public int y;
  public void methodA(){
    int x=0, y =0;
    y = y + this.y;
    x = this.y + 2;
    sum = x + y + methodB(x, y);
    System.out.println(x + " " + y+ " " + sum);
  }
  public int methodB(int m, int n){
    int x = 0;
    y = y + m;
    x = x + 2 + n;
    sum = sum + x + y;
    System.out.println(x + " " + y+ " " + sum);
    return sum;
  }
}
```

What is the output if you execute the methodA() 5 times on an instance of the QuizB Class?

6.

```
//************************************************************************
****
//Run the methodA() on an Instance of Test4 five times and explain the
answer.
//************************************************************************
****
public class Test4{
  public int sum;
  public int y;

  public void methodA(){
    int x=0, y =0;
    int [] msg = new int[1];
    msg[0] = 5;
    y = y + methodB(msg[0]);
    x = y + methodB(msg, msg[0]);
    sum = x + y + msg[0];
    System.out.println(x + " " + y+ " " + sum);
  }
  private int methodB(int [] mg2, int mg1){
    int x = 0;
    y = y + mg2[0];
    x = x + 33 + mg1;
    sum = sum + x + y;
    mg2[0] = y + mg1;
    mg1 = mg1 + x + 2;
    System.out.println(x + " " + y+ " " + sum);
    return sum;
  }
  private int methodB(int mg1){
    int x = 0;
    int y = 0;
    y = y + mg1;
    x = x + 33 + mg1;
    sum = sum + x + y;
    this.y = mg1 + x + 2;
    System.out.println(x + " " + y+ " " + sum);
    return y;
  }
}
```

7.

```
/*
What is the output for the following code sequence?
FinalT3A fT3A = new FinalT3A();
fT3A.methodA();
fT3A.methodB(6,8);
*/

public class FinalT3A{
  public int sum;
  public int y;
  public void methodA(){
    int x=0, y =0, j = 0;
    while (j < 2){
      y = y + j;
      x = j + methodB(y , j);
      sum = x + y;
      System.out.println(x + " " + y+ " " + sum);
      j++;
    }
  }
  public int methodB(int p, int k){
    int x = 0;
    y = y + k + 1;
    x = x + 3 - p;
    sum = sum + x + y;
    System.out.println(x + " " + y+ " " + sum);
    return sum;
  }
}
```

8.

```
//*************************************************************************
*****
//Run the methodA() on an Instance of Test2 three times and explain the
answer.
//*************************************************************************
******
class msg{
  public int content;
}
public class Test2{
  public int sum;
  public int y;

  public void methodA(){
    int x=0, y =0;
    msg mg = new msg();
    mg.content = 5;
    y = y + mg.content;
    methodB(mg);
    x = y + mg.content;
```

```
    sum = x + y;
    System.out.println(x + " " + y+ " " + sum);
  }
  private void methodB(msg mg2){
    int x = 0;
    y = y + mg2.content;
    x = x + 33 + y;
    sum = sum + x + y;
    mg2.content = x;
    System.out.println(x + " " + y+ " " + sum);
  }
}
```