Fall 2017 - CS2540 - Programming Workshop

Quiz 5

CIN: 
Name: 

Marks: 50
Date:

1) Define the following:
   a) Class. (1 mark)
   b) Object. (1 mark)
   c) Constructor. (1 mark)
   d) Default constructor. (1 mark)
   e) Parameterized constructor. (1 mark)
   f) Static Variable. (1 mark)
   g) Garbage Collection (1 mark)

2) Say True or False for the following.
   a) A static method cannot access instance method or data field. (1 mark)
   b) An instance method cannot access a static method or data field. (1 mark)
   c) A static method cannot access static method or data field. (1 mark)
   d) An instance method cannot access instance method or data field. (1 mark)
   e) Constructor cannot have any return type except void. (1 mark)
   f) Constructors cannot be overloaded. (1 mark)

3) ________ operator is used to create an object. (1 mark)

4) ________ operator is used to access member of an object. (1 mark)

5) The state of an object (properties or attribute) is represented by ________ (1 mark)

6) The behavior of an object (actions) is defined by ________ (1 mark)

7) A static method is invoked using ________ or ________ (1 mark)

8) An instance method is invoked using ________ (1 mark)

9) The default value of the data field is ________ for reference type. (1 mark)
10) Write the output for the following.

```java
public class DriverCounter {
    int counter1;
    static int counter2;

    public void findCount() {
        counter1++;
        counter2++;
    }

    public void displayCount() {
        System.out.println("counter1: " + counter1);
        System.out.println("counter2: " + counter2);
    }

    public static void main(String[] args) {
        DriverCounter DC1 = new DriverCounter();
        DriverCounter DC2 = new DriverCounter();
        DriverCounter DC3 = new DriverCounter();

        DC1.findCount();
        DC1.displayCount();
        DC2.findCount();
        DC2.displayCount();
        DC3.findCount();
        DC3.displayCount();
    }
}
```

11) Write a class called Addition with 4 data fields say a, b, c and result of type double. (25 marks)

Create 3 constructors:
- First constructor with no parameter and initializes all the data fields to be zero
- Second constructor takes 2 parameter and initializes a and b with those 2 values, c and result to be zero.
- Third constructor takes 3 parameter and initializes a, b and c with those 3 values and result to be zero.

Create 3 methods:
- First method – fetchInput() which receives values for a, b and c from user.
- Second method – findResult() which adds a, b and c and stores it in result.
- Third method – displayResult() which displays the result as follows,
  Example: The sum of 3.1, 2.3 and 1.6 is 7.0
Create 3 objects:

- Create a driver class called DriverAddition which creates 3 objects namely,
- Add with no parameter,
- Add2 with two parameter say 5.6 and 6.4
- Add3 with three parameter say 2.3, 3.2 and 5.5

Call fetchInput(), findResult() and displayResult() for Add object.

Call findResult() and displayResult() for Add2 and Add3 object.

Write the complete output of the above program.