



# **COMP 248 - Winter 2016**

## **Tutorial 10**

# Question 1 (1)

Consider the following code and the declarations in the Driver class:

```
public class Example
{
    public static void one(int a, double b) { // some correct code }
    private static boolean two(char c) { // some correct code }
    public boolean three() { // some correct code }
    public void four(char c) { // some correct code }
}
```

```
Example x = new Example();
```

```
Example y;
```

# Question 1 (2)

Indicate if the following instructions will cause a syntax error if placed in the Driver class; Describe the problem if any

A- `Example.one(4.5, 3);`

B- `x.one(3, 4.5);`

C- `System.out.print(Example.two("f"));`

D- `while (x.three())`

`System.out.print("hello");`

E- `y.four("g");`

# Question 2

What is the output of the following?

```
public class Test {
    public static int m = 2;
    public static int foo(int a) {return (a*a);}
    public static int bar(int x) {return foo(foo(x + 1));}
    public static int baz(int x, int y) {return foo(x + bar(y + 1));}
    public static void main(String[] args)
    {
        int i = 2, j = 1;
        System.out.println("foo = " + foo(i));
        System.out.println("foo = " + foo(i + m));
        System.out.println("bar = " + bar(i + m));
        System.out.println("baz = " + baz(i, j));
        System.out.println("baz = " + baz(j, i));
    }
}
```

# Question 3 (1)

Assume the following code:

```
public class Swapper {
    private int x;
    private String y;
    public int z;
    public Swapper(int a, String b, int c) {
        x = a;
        y = b;
        z = c;
    }
    public String swap() {
        int temp = x;
        x = z;
        z = temp;
        return y;
    }
}
```

```
public String toString() {
    if (x < z)
        return y;
    else
        return "" + x + z;
}
}
```

# Question 3 (2)

Answer the following questions

1. What is displayed after the execution of:

```
Swapper s = new Swapper(o, "hello", o);  
System.out.print(s);
```

2. Which of the following criticisms is valid about the Swapper class?

- a) The instance data x is visible outside of Swapper
- b) The instance data y is visible outside of Swapper
- c) The instance data z is visible outside of Swapper
- d) All 3 instance data are visible outside of Swapper
- e) None of the methods are visible outside of Swapper.

# Question 3 (3)

Answer the following questions

3. If we had:

```
Swapper r = new Swapper (5, "no", 10);  
r.swap( );
```

what would be returned?

# Question 4 (1)

What is the output of the following program:

```
public class Test {
    private int a;
    static private int b = 100;

    public Test(int n)
    {
        a = n;
        b += 100;
        System.out.println("in Test: " + a + " " + this.a + " " + b);
    }
    public void methA()
    {
        b += 50;
        {
            int a = 7;
            int b = this.a + 5;
            this.a = a + 2;
        }
    }
}
```



# Question 4 (2)

```
        System.out.println(a + " " + this.a + " " + b);
    }
    System.out.println(a + " " + this.a + " " + b);
}
}
public class TestDriver
{
    public static void main(String[] args)
    {
        Test t1 = new Test(10);
        t1.methA();

        Test t2 = new Test(25);
    }
}
```

# Question 5 (1)

Assume the following piece of code:

```
public class Book {  
    private String name;  
    private double price;  
  
    public Book(String name, double price) {  
        this.name = name;  
        this.price = price;  
    }  
    public Book (Book book){  
        this.name = book.name ;  
        this.price = book.price;  
    }  
    public String getName() {  
        return name;  
    }  
  
    public void setName(String theName) {  
        name = theName;  
    }  
  
    public double getPrice() {  
        return price;  
    }  
  
    public void setPrice(double thePrice) {  
        price = thePrice;  
    }  
  
    public String toString() {  
        return name + " costs " + price;  
    }  
}
```

# Question 5 (2)

Consider the following code in the driver class:

```
Book book1 = new Book("MyBook1", 10.0);  
Book book2 = book1;  
book2.setName("MyBook2");  
System.out.println("book1: " + book1);  
System.out.println("book2: " + book2);
```

What will be the output of the code?

- A. book1: MyBook1 costs 10.0  
book2: MyBook2 costs 10.0
- B. book1: MyBook2 costs 10.0  
book2: MyBook2 costs 10.0
- C. book1: MyBook1 costs 10.0  
book2: MyBook1 costs 10.0

# Question 5 (3)

Consider the following code in the driver class:

```
Book book1 = new Book("MyBook1", 10.0);  
Book book3 = new Book(book1);  
book3.setName("MyBook3");  
System.out.println("book1: " + book1);  
System.out.println("book3: " + book3);
```

What will be the output of the code?

- A. book1: MyBook1 costs 10.0  
book3: MyBook3 costs 10.0
- B. book1: MyBook1 costs 10.0  
book3: MyBook2 costs 10.0
- C. book1: MyBook3 costs 10.0  
book3: MyBook3 costs 10.0