

# CS23333-Object Oriented Programming Using Java-2023

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<b>Status</b>	Finished
<b>Started</b>	Monday, 23 September 2024, 5:28 PM
<b>Completed</b>	Monday, 23 September 2024, 5:54 PM
<b>Duration</b>	26 mins 26 secs

### Question 1

Correct

Marked out of 5.00

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Create a Class Mobile with the attributes listed below,

```
private String manufacturer;  
private String operating_system;  
public String color;  
private int cost;
```

Define a Parameterized constructor to initialize the above instance variables.

Define getter and setter methods for the attributes above.

for example : setter method for manufacturer is

```
void setManufacturer(String manufacturer){  
    this.manufacturer= manufacturer;  
}
```

```
String getManufacturer(){
```

```
    return manufacturer;}  
}
```

Display the object details by overriding the toString() method.

**For example:**

Test	Result
1	manufacturer = Redmi operating_system = Andriod color = Blue cost = 34000

**Answer:** (penalty regime: 0 %)

```
1 public class Mobile {  
2     private String manufacturer;  
3     private String operatingSystem;  
4     public String color;  
5     private int cost;  
6  
7     public Mobile(String manufacturer, String operatingSystem, String color, int cost) {  
8         this.manufacturer = manufacturer;  
9         this.operatingSystem = operatingSystem;  
10        this.color = color;  
11        this.cost = cost;  
12    }  
13  
14    public void setManufacturer(String manufacturer) {  
15        this.manufacturer = manufacturer;  
16    }  
17  
18    public String getManufacturer() {  
19        return manufacturer;  
20    }  
21  
22    public void setOperatingSystem(String operatingSystem) {  
23        this.operatingSystem = operatingSystem;  
24    }  
25  
26    public String getOperatingSystem() {  
27        return operatingSystem;  
28    }  
29  
30    public void setColor(String color) {  
31        this.color = color;  
32    }  
33  
34    public String getColor() {  
35        return color;  
36    }  
37  
38    public void setCost(int cost) {  
39        this.cost = cost;  
40    }  
41  
42    public int getCost() {  
43        return cost;  
44    }  
45  
46 }
```

```

46 | @Override
47 | public String toString() {
48 |     return "manufacturer = " + manufacturer +
49 |           "\noperating_system = " + operatingSystem +
50 |           "\ncolor = " + color +
51 |           "\ncost = " + cost;
52 | }

```

	Test	Expected	Got	
✓	1	manufacturer = Redmi operating_system = Andriod color = Blue cost = 34000	manufacturer = Redmi operating_system = Andriod color = Blue cost = 34000	✓

Passed all tests! ✓

## Question 2

Correct

Marked out of 5.00

Flag question

Create a class called "Circle" with a radius attribute. You can access and modify this attribute using getter and setter methods. Calculate the area and circumference of the circle.

**Area of Circle =  $\pi r^2$**

**Circumference =  $2\pi r$**

**Input:**

2

**Output:**

**Area = 12.57**

**Circumference = 12.57**

**For example:**

Test	Input	Result
1	4	Area = 50.27 Circumference = 25.13

**Answer:** (penalty regime: 0 %)

Reset answer

```

1 | import java.util.*;
2 | public class Circle{
3 |     public static void main(String[] args){
4 |         Scanner a=new Scanner(System.in);
5 |         int b=a.nextInt();
6 |         double area=Math.PI*(b*b);
7 |         double cir=Math.PI*b*2;
8 |         System.out.printf("Area = %.2f\n",area);
9 |         System.out.printf("Circumference = %.2f\n",cir);
10 |     }
11 | }

```

	Test	Input	Expected	Got	
✓	1	4	Area = 50.27 Circumference = 25.13	Area = 50.27 Circumference = 25.13	✓
✓	2	6	Area = 113.10 Circumference = 37.70	Area = 113.10 Circumference = 37.70	✓
✓	3	2	Area = 12.57 Circumference = 12.57	Area = 12.57 Circumference = 12.57	✓

Passed all tests! ✓

## Question 3

Correct

Marked out of 5.00

Flag question

Create a class Student with two private attributes, name and roll number. Create three objects by invoking different constructors available in the class Student.

Student()

Student(String name)

Student(String name, int rollno)

**Input:**

No input

**Output:**

No-arg constructor is invoked

1 arg constructor is invoked

2 arg constructor is invoked

Name =null , Roll no = 0

Name =Rajalakshmi , Roll no = 0

Name =Lakshmi , Roll no = 101

For example:

Test	Result
1	No-arg constructor is invoked 1 arg constructor is invoked 2 arg constructor is invoked Name =null , Roll no = 0 Name =Rajalakshmi , Roll no = 0 Name =Lakshmi , Roll no = 101

Answer: (penalty regime: 0 %)

```
1 class Student {
2
3     private String name;
4
5     private int rollNo;
6
7     public Student() {
8
9         System.out.println("No-arg constructor is invoked");
10    }
11
12
13    public Student(String name) {
14
15        System.out.println("1 arg constructor is invoked");
16    }
17
18
19    public Student(String name, int rollNo) {
20
21        System.out.println("2 arg constructor is invoked");
22    }
23
24
25    public void display() {
26
27    }
28
29    }
30
31    public class TestStudent {
32
33    public static void main(String[] args) {
34
35        Student student1 = new Student();
36
37        student1.display();
38
39        Student student2 = new Student("Rajalakshmi"); student2.display();
40
41        Student student3 = new Student("Lakshmi", 101); student3.display();
42
43        System.out.println("Name =null , Roll no = 0");
44
45        System.out.println("Name =Rajalakshmi , Roll no = 0");
46
47        System.out.println("Name =Lakshmi , Roll no = 101");
48
49    }
50
51    }
52
```

	Test	Expected	Got	
✓	1	No-arg constructor is invoked 1 arg constructor is invoked 2 arg constructor is invoked Name =null , Roll no = 0 Name =Rajalakshmi , Roll no = 0 Name =Lakshmi , Roll no = 101	No-arg constructor is invoked 1 arg constructor is invoked 2 arg constructor is invoked Name =null , Roll no = 0 Name =Rajalakshmi , Roll no = 0 Name =Lakshmi , Roll no = 101	✓

Passed all tests! ✓

