

# CS23333-Object Oriented Programming Using Java-2023

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Started	Tuesday, 8 October 2024, 8:37 PM
Completed	Tuesday, 8 October 2024, 8:38 PM
Duration	1 min 40 secs

Question 1

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 public class stud{
2
3     private String name;
4
5     private int roll;
6     public stud(){
7         System.out.println("No-arg constructor is invoked");
8         name=null;
9         roll=0;
10    }
11
12    public stud(String name){
13        System.out.println("1 arg constructor is invoked");
14        this.name=name;
15        roll=0;
16    }
17
18    public stud(String name,int roll){
19        System.out.println("2 arg constructor is invoked");
20        this.name=name;
21        this.roll=roll;
22    }
23
24
25    public static void main (String[]args){
26        stud s1=new stud();
27        stud s2=new stud("Rajalakshmi");
28        stud s3=new stud("Lakshmi",101);
29        System.out.println("Name =" +s1.name+" , Roll no = "+s2.roll);
30        System.out.println("Name =" +s2.name+" , Roll no = "+s2.roll);
31        System.out.println("Name =" +s3.name+" , Roll no = "+s3.roll);
32    }
33 }
34
35
```

	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!

Question 2

Correct

Marked out of 5.00

Flag question

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
3     private String man;
4
5     private String os;
6     public String clr;
7     private int cost;
8     public mobile(String man,String os,String clr,int cost){
9         this.man=man;
10        this.os=os;
11        this.clr=clr;
12        this.cost=cost;
13    }
14    public String toString(){
15        return "manufacturer = "+man+"\n"+"operating_system = "+os+"\n"+"color = "+ clr+"\n"+"cost = "+cost;
16    }
17    public static void main(String[] args){
18        mobile mobile=new mobile("Redmi","Andriod","Blue",34000);
19        System.out.println(mobile);
20    }
21 }
```

	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 **3**

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.io.*;
2
3 import java.util.Scanner;
4
5 class Circle
6 {
7     private double radius;
8     public Circle(double radius){
9         // set the instance variable radius
10        this.radius =radius;
11    }
12    public void setRadius(double radius){
13        // set the radius
14        this.radius=radius;
15    }
16
17    public double getRadius()    {
18        // return the radius
19        return radius;
20    }
21
22    public double calculateArea() { // complete the below statement
23        return Math.PI*radius*radius;
24    }
25
26    public double calculateCircumference()    {
27        // complete the statement
28        return 2*Math.PI*radius;
29    }
30 }
31 class prog{
32     public static void main(String[] args) {
```

```

33         int r;
34         Scanner sc= new Scanner(System.in);
35         r=sc.nextInt();
36         Circle c= new Circle(r);
37         System.out.println("Area = "+String.format("%.2f", c.calculateArea()));
38         // invoke the calculateCircumference method
39         System.out.println("Circumference = "+String.format("%.2f" , c.calculateCircumference()));
40
41         sc.close();
42     }
43 }
44
45

```

	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!

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