

CS23333-Object Oriented Programming Using Java-2023

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Status	Finished
Started	Sunday, 6 October 2024, 6:02 PM
Completed	Sunday, 6 October 2024, 6:14 PM
Duration	12 mins 3 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     private String name;
3     private int roll;
4     public stud(){
5         System.out.println("No-arg constructor is invoked");
6         name=null;
7         roll=0;
8     }
9
10    public stud(String name){
11        System.out.println("1 arg constructor is invoked");
12        this.name=name;
13        roll=0;
14    }
15
16    public stud(String name,int roll){
17        System.out.println("2 arg constructor is invoked");
18        this.name=name;
19        this.roll=roll;
20    }
21
22
23    public static void main (String[]args){
24        stud s1=new stud();
25        stud s2=new stud("Rajalakshmi");
26        stud s3=new stud("Lakshmi",101);
27        System.out.println("Name =" +s1.name+" , Roll no = "+s2.roll);
28        System.out.println("Name =" +s2.name+" , Roll no = "+s2.roll);
29        System.out.println("Name =" +s3.name+" , Roll no = "+s3.roll);
30    }
31
32 }
```

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

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 = πr^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

Reset answer

```

1 import java.io.*;
2 import java.util.Scanner;
3 class Circle
4 {
5     private double radius;
6     public Circle(double radius){
7         // set the instance variable radius
8         this.radius =radius;
9     }
10    public void setRadius(double radius){
11        // set the radius
12        this.radius=radius;
13    }
14    }
15    public double getRadius()    {
16        // return the radius
17        return radius;
18    }
19    }
20    public double calculateArea() { // complete the below statement
21        return Math.PI*radius*radius;
22    }
23    }
24    public double calculateCircumference()    {
25        // complete the statement
26        return 2*Math.PI*radius;
27    }
28    }
29    class prog{
30    public static void main(String[] args) {
31        int r;
32        Scanner sc= new Scanner(System.in);
33        r=sc.nextInt();
34        Circle c= new Circle(r);
35        System.out.println("Area = "+String.format("%.2f", c.calculateArea()));
36        // invoke the calculatecircumference method
37        System.out.println("Circumference = "+String.format("%.2f" , c.calculateCircumference()));
38    }
39    }
40    }
41    }

```

	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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