

CS23333-Object Oriented Programming Using Java-2023

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Started	Sunday, 6 October 2024, 10:35 AM
Completed	Sunday, 6 October 2024, 10:44 AM
Duration	9 mins 12 secs

Question 1

Correct

Marked out of 5.00

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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

Answer: (penalty regime: 0 %)

Reset answer

```
1
2 import java.io.*;
3 import java.util.Scanner;
4 class Circle
5 {
6     private double radius;
7     public Circle(double radius){
8         // set the instance variable radius
9         this.radius =radius;
10    }
11    public void setRadius(double radius){
12        // set the radius
13        this.radius=radius;
14    }
15
16    public double getRadius()    {
17        // return the radius
18        return radius;
19    }
20
21    public double calculateArea() { // complete the below statement
22        return Math.PI*radius*radius;
23    }
24
25    public double calculateCircumference()    {
26        // complete the statement
27        return 2*Math.PI*radius;
28    }
29 }
30 class prog{
31     public static void main(String[] args)  {
32         int r;
33         Scanner sc= new Scanner(System.in);
34         r=sc.nextInt();
35         Circle c= new Circle(r);
36         System.out.println("Area = "+String.format("%.2f", c.calculateArea()));
37         // invoke the calculatecircumference method
38         System.out.println("Circumference = "+String.format("%.2f" , c.calculateCircumference()));
39
40         sc.close();
41     }
42 }
43
```

	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 2

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     public stud(String name){
10        System.out.println("1 arg constructor is invoked");
11        this.name=name;
12        roll=0;
13    }
14    }
15    public stud(String name,int roll){
16        System.out.println("2 arg constructor is invoked");
17        this.name=name;
18        this.roll=roll;
19    }
20    }
21    }
22    public static void main (String[]args){
23        stud s1=new stud();
24        stud s2=new stud("Rajalakshmi");
25        stud s3=new stud("Lakshmi",101);
26        System.out.println("Name =" +s1.name+" , Roll no = "+s2.roll);
27        System.out.println("Name =" +s2.name+" , Roll no = "+s2.roll);
28        System.out.println("Name =" +s3.name+" , Roll no = "+s3.roll);
29    }
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 **3**

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 man;
3     private String os;
4     private 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+"\n"+"cost = "+cost;
14     }
15     public static void main(String[] args){
16         mobile mobile=new mobile("Redmi","Andriod","Blue",34000);
17         System.out.println(mobile);
18     }
19 }
20

```

	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!

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