CS23333-Object Oriented Programming Using Java-2023

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Status	Finished
Started	Saturday, 5 October 2024, 12:27 PM
Completed	Saturday, 5 October 2024, 12:39 PM
Duration	12 mins 6 secs

Question **1**

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

Answer: (penalty regime: 0 %)

Reset answer

```
import java.util.*;
class Circle
{
    private double radius;
    public Circle(double radius){
        // set the instance variable radius
        setRadius(radius);


    }
    public void setRadius(double radius){
        // set the radius
        this.radius=radius;


    }
    public double getRadius()    {
        // return the radius
        return radius;


    }
    public double calculateArea()  { // complete the below statement
       return Math.PI*radius*radius;

    }
    public double calculateCircumference()    {
        // complete the statement
       return  2*Math.PI*radius;
    }
}
class prog{
    public static void main(String[] args)  {
        int radius;
        Scanner sc= new Scanner(System.in);
        radius=sc.nextInt();
        Circle circle= new Circle(radius);
        System.out.println("Area = "+String.format("%.2f", circle.calculateArea()));
        // invoke the calculatecircumference method
        System.out.println("Circumference = "+String.format("%.2f",circle.calculateCircumference()));

    }
}
```

	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**

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 %)

```
class Mobile{
    private String m;
    private String os;
    public String c;
    private int cost;

    public Mobile(String m,String os,String c,int cost){
        this.m=m;
        this.os=os;
        this.c=c;
        this.cost=cost;
    }
    public void setManufacturer(String m){
        this.m=m;
    }
    public void setOperatingSystem(String os){
        this.os=os;
    }
    public void setColor(String color){
        this.c=c;
    }
    public void setCost(int cost){
        this.cost=cost;
    }

    public String getManufacturer(){
        return m;
    }
    public String getOperatingSystem(){
        return os;
    }
    public String getColor(){
        return c;
    }
    public int getCost(){
        return cost;
    }

    @Override
    public String toString(){
        return "manufacturer = "+ m +"\n" +
        "operating_system = " + os + "\n" +
        "color = " + c + "\n" + "cost = " + cost;
    }
}
public class Prog{
    public static void main(String[] args){
        Mobile mobile=new Mobile("Redmi","Andriod","Blue",34000);
        System.out.println(mobile);
    }
}
```

	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 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 %)

```
import java.util.*;
class Student{
    private String name;
    private int rollNo;
    public Student(){
        System.out.println("No-arg constructor is invoked");
        this.name=null;
        this.rollNo=0;
    }
    public Student(String name){
        System.out.println("1 arg constructor is invoked");
        this.name=name;
        this.rollNo=0;
    }
    public Student(String name,int rollNo){
        System.out.println("2 arg constructor is invoked");
        this.name=name;
        this.rollNo=rollNo;
    }
    public void display(){
        System.out.println("Name ="+(name!=null?name:"null")+" , Roll no = "+rollNo);
    }
}
public class Main{
    public static void main(String[] args){
        Student stu1=new Student();
        Student stu2=new Student("Rajalakshmi");
        Student stu3=new Student("Lakshmi",101);
        stu1.display();
        stu2.display();
        stu3.display();
    }
}
```

	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! ✓

Finish review

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