Status	Finished
Started	Saturday, 21 September 2024, 9:18 PM
Completed	Saturday, 21 September 2024, 10:26 PM
Duration	1 hour 8 mins

Question **1**

Correct

Marked out of 5.00

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

    }
    public void setRadius(double radius){
        // set the radius
        if(radius>=0){
            this.radius=radius;
        }
        else{
            throw new IllegalArgumentException();
        }


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

    }
    public double calculateArea()  { // complete the below statement
       return (3.14159)*Math.pow(radius,2);

    }
    public double calculateCircumference()    {
        // complete the statement
       return  2*(3.14159)*radius;
    }
}
class prog{
    public static void main(String[] args)  {
        int r;
```

```
        Scanner sc= new Scanner(System.in);
        r=sc.nextInt();
        Circle c= new Circle(r);
        System.out.println("Area = "+String.format("%.2f", c.calculateArea()));
        System.out.println("Circumference = "+String.format("%.2f",c.calculateCircumference()))
        // invoke the calculatecircumference method


    }
}
```

	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

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 %)

```
import java.util.Scanner;
class Mobile{
    private String manufacturer;
    private String operating_system;
    public String color;
    private int cost;
    public Mobile(String manufacturer,String operating_system,String color,int cost){
        this.manufacturer=manufacturer;
        this.operating_system=operating_system;
        this.cost=cost;
        this.color=color;
    }
    public String getManufacturer(){
        return manufacturer;
    }
    public String getOperating_system(){
        return operating_system;
    }
    public String getColor(){
        return color;
    }
    public int getCost(){
        return cost;
    }
}
public class prog{
    public static void main(String[] args){
        Mobile mobile=new Mobile("Redmi","Andriod","Blue",34000);
        System.out.println("manufacturer "+"= "+mobile.getManufacturer());
        System.out.println("operating_system "+"= "+mobile.getOperating_system());
        System.out.println("color "+"= "+mobile.getColor());
        System.out.println("cost "+"= "+mobile.getCost());
```

```
33
34
35      }}
36
```

	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

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 %)

```
class Student{
    private String name;
    private int rollno;
    public Student(){
        this.name="null";
        this.rollno=0;
    }
    public Student(String name){
        this.name=name;
        this.rollno=0;
    }
    public Student(String name,int rollno){
        this.name=name;
        this.rollno=rollno;
    }
    public String getName(){
        return name;
    }
    public int getRollno(){
        return rollno;
    }
}
public class Main{
    public static void main(String[] args){
        Student s1=new Student();
        Student s2=new Student("Rajalakshmi");
        Student s3=new Student("Lakshmi",101);
        System.out.print("No-arg constructor is invoked \n1 arg constructor is invoked\n2 arg c
        System.out.println("Name ="+s1.getName()+" , Roll no = "+s1.getRollno());
        System.out.println("Name ="+s2.getName()+" , Roll no = "+s2.getRollno());
        System.out.println("Name ="+s3.getName()+" , Roll no = "+s3.getRollno());
```

```
32      }
33  }
```

	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! ✓

◄ Lab-04-MCQ

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