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Status	Finished
Started	Tuesday, 1 October 2024, 6:02 PM
Completed	Tuesday, 1 October 2024, 6:41 PM
Duration	38 mins 54 secs

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

```

1 import java.util.Scanner;
2 public class Circle {
3     private double radius;
4     public Circle(double radius) {
5         this.radius = radius;
6     }
7     public double getRadius() {
8         return radius;
9     }
10    public void setRadius(double radius) {
11        this.radius = radius;
12    }
13    public double calculateArea() {
14        return Math.PI * radius * radius;
15    }
16    public double calculateCircumference() {
17        return 2 * Math.PI * radius;
18    }
19    public static void main(String[] args) {
20        Scanner sc = new Scanner(System.in);
21        double inputRadius = sc.nextDouble();
22
23        Circle circle = new Circle(inputRadius);
24        System.out.printf("Area = %.2f\n", circle.calculateArea());
25        System.out.printf("Circumference = %.2f\n", circle.calculateCircumference());
26    }
27 }
28

```

	Test	Input	Expected	Got	
✓	1	4	Area = 50.27 Circumference = 25.13	Area = 50.27 Circumference = 25.13	✓

	Test	Input	Expected	Got	
✓	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 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 Student {
2     private String name;
3     private int rollno;
4
5     public Student() {
6         System.out.println("No-arg constructor is invoked");
7         this.name = null;
8         this.rollno = 0;
9     }
10
11    public Student(String name) {
12        System.out.println("1 arg constructor is invoked");
13        this.name = name;
14        this.rollno = 0;
15    }
16
17    public Student(String name, int rollno) {
18        System.out.println("2 arg constructor is invoked");
19        this.name = name;
20        this.rollno = rollno;
21    }
22
23    public void display() {
24        System.out.println("Name =" + name + " , Roll no =" + rollno);
25    }
26
27    public static void main(String[] args) {
28
29        Student student1 = new Student();
30        Student student2 = new Student("Rajalakshmi");
31        Student student3 = new Student("Lakshmi", 101);

```

```

32     student1.display();
33     student2.display();
34     student3.display();
35 }
36 }
37

```

	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

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 import java.util.Scanner;
2 public class Mobile{
3     private String manufacturer;
4     private String operating_system;
5     public String color;
6     private int cost;
7     public Mobile(String manufacturer, String operating_system, String color, int cost){
8         this.manufacturer=manufacturer;
9         this.operating_system=operating_system;
10        this.color=color;
11        this.cost=cost;
12    }
13    public void setManufacturer (String Manufacturer) {
14        this.manufacturer=manufacturer;
15    }
16    public String getManufacturer(){
17        return manufacturer;
18    }
19    public void setOperatingsystem (String operating_system) {
20        this.operating_system=operating_system;
21    }
22    public String getOperatingsystem(){
23        return operating_system;
24    }
25    public void setColor(String Color) {
26        this.color=color;
27    }
28    public String getColor(){
29        return color;
30    }
31    public void setColor(int cost) {
32        this.cost=cost;
```

```

33     }
34     public int getCost(){
35         return cost;
36     }
37     public String toString(){
38         return "manufacturer = " + manufacturer + "\n" + "operating_system = " + operating_system + "\n" + "color
39     }
40     public static void main(String[] args) {
41         Mobile mobile=new Mobile("Redmi", "Andriod", "Blue", 34000);
42         System.out.println(mobile);
43     }
44 }
45
46

```

	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! ✓

◀ Lab-04-MCQ

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