

CS23333-Object Oriented Programming Using Java-2023

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Status	Finished
Started	Sunday, 6 October 2024, 3:59 PM
Completed	Sunday, 6 October 2024, 4:42 PM
Duration	43 mins 3 secs

Question 1

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 class Mobile{  
2     private String m;  
3     private String os;  
4     public String c;  
5     private int cost;  
6  
7     public Mobile(String m,String os,String c,int cost){  
8         this.m=m;  
9         this.os=os;  
10        this.c=c;  
11        this.cost=cost;  
12    }  
13    public void setManufacturer(String m){  
14        this.m=m;  
15    }  
16    public void setOperatingSystem(String os){  
17        this.os=os;  
18    }  
19    public void setColor(String color){  
20        this.c=c;  
21    }  
22    public void setCost(int cost){  
23        this.cost=cost;  
24    }  
25  
26    public String getManufacturer(){  
27        return m;  
28    }  
29    public String getOperatingSystem(){  
30        return os;  
31    }  
32    public String getColor(){  
33        return c;  
34    }  
35    public int getCost(){  
36        return cost;  
37    }  
38  
39    @Override  
40    public String toString(){  
41        return "manufacturer = " + m + "\n" +  
42        "operating_system = " + os + "\n" +  
43        "color = " + c + "\n" + "cost = " + cost;  
44    }  
45  
46    public class Prog{  
47        public static void main(String[] args){  
48            Mobile mobile=new Mobile("Redmi","Andriod","Blue",34000);  
49            System.out.println(mobile);  
50        }  
51    }
```

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 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

```
name =Rajalakshmi , Roll no = 0
Name =Lakshmi , Roll no = 101
```

Answer: (penalty regime: 0 %)

```
1 import java.util.*;
2 class Student{
3     private String name;
4     private int rollNo;
5     public Student(){
6         System.out.println("No-arg constructor is invoked");
7         this.name=null;
8         this.rollNo=0;
9     }
10    public Student(String name){
11        System.out.println("1 arg constructor is invoked");
12        this.name=name;
13        this.rollNo=0;
14    }
15    public Student(String name,int rollNo){
16        System.out.println("2 arg constructor is invoked");
17        this.name=name;
18        this.rollNo=rollNo;
19    }
20    public void display(){
21        System.out.println("Name =" + (name!=null?name:"null")+" , Roll no = "+rollNo);
22    }
23 }
24 public class Main{
25     public static void main(String[] args){
26         Student stu1=new Student();
27         Student stu2=new Student("Rajalakshmi");
28         Student stu3=new Student("Lakshmi",101);
29         stu1.display();
30         stu2.display();
31         stu3.display();
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! ✓

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

Answer: (penalty regime: 0 %)

Reset answer

```
1 import java.util.*;
2 class Circle
3 {
4     private double radius;
5     public Circle(double radius){
6         // set the instance variable radius
7         setRadius(radius);
8     }
9
10    }
11    public void setRadius(double radius){
12        // set the radius
13        this.radius=radius;
14    }
15
16    }
17    public double getRadius() {
18        // return the radius
19        return radius;
20    }
21
22    }
23    public double calculateArea() { // complete the below statement
24        return Math.PI*radius*radius;
25    }
26
27    }
28    public double calculateCircumference() {
29        // complete the statement
30        return 2*Math.PI*radius;
31    }
32
33    }
34    class prog{
35        public static void main(String[] args) {
36            int radius;
37            Scanner sc= new Scanner(System.in);
38            radius=sc.nextInt();
39            Circle circle= new Circle(radius);
40            System.out.println("Area = "+String.format("%.2f", circle.calculateArea()));
41            // Invoke the calculateCircumference method
42            System.out.println("Circumference = "+String.format("%.2f",circle.calculateCircumference()));
43        }
44    }
```

	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! ✓

