

CS23333-Object Oriented Programming Using Java-2023

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Question 1

Correct

Marked out of 5.00

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| | |
|-----------|-----------------------------------|
| Status | Finished |
| Started | Saturday, 5 October 2024, 8:47 PM |
| Completed | Saturday, 5 October 2024, 8:51 PM |
| Duration | 4 mins 6 secs |

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

| 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 2

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

```

| 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 3

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 public class Mobile{  
2     private String manufacturer;  
3     private String operating_system;  
4     private int cost;  
5     private String color;  
6     public Mobile(String manufacturer,String operating_system,String color,int cost){  
7         this.manufacturer=manufacturer;  
8         this.operating_system=operating_system;  
9         this.color=color;  
10        this.cost=cost;  
11    }  
12    public void setmanufacturer(String manufacturer){  
13        this.manufacturer=manufacturer;  
14    }  
15    public String getmanufacturer(){  
16        return manufacturer;  
17    }  
18    public void setoperatingsystem(String operating_system){  
19        this.operating_system=operating_system;  
20    }  
21    public String getoperatingsystem(){  
22        return operating_system;  
23    }  
24    public void setcolor(String color){  
25        this.color=color;  
26    }  
27    public String getcolor(){  
28        return color;  
29    }  
30    public void setcost(int cost){  
31        this.cost=cost;  
32    }  
33    public int getcost(){  
34        return cost;  
35    }  
36    public String toString(){  
37        return "manufacturer = "+manufacturer+"\n"+"operating_system = "+operating_system+"\n"+"color = "+color+"\n"+"cost = "+cost; }  
38    }  
39    public static void main(String args[]){  
40        Mobile mobile=new Mobile("Redmi","Andriod","Blue",34000);  
41        System.out.println(mobile.toString());  
42    }  
43 }
```

| 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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