

## Week-04

# Classes and Objects

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### Program 1:

```
import java.io.*;

import java.util.Scanner;

class Circle
{
    private double radius;
    public Circle(double radius){
        // set the instance variable radius
        this.radius =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 r;
```

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

sc.close();
}
}
```

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## Program 2:

```
public class stud{

    private String name;

    private int roll;
    public stud(){
        System.out.println("No-arg constructor is invoked");
        name=null;
        roll=0;
    }
    public stud(String name){
        System.out.println("1 arg constructor is invoked");
        this.name=name;
        roll=0;
    }
    public stud(String name,int roll){
        System.out.println("2 arg constructor is invoked");
        this.name=name;
        this.roll=roll;
    }
}
```

```
}
```

```
public static void main (String[]args){  
    stud s1=new stud();  
    stud s2=new stud("Rajalakshmi");  
    stud s3=new stud("Lakshmi",101);  
    System.out.println("Name =" +s1.name+" , Roll no = "+s2.roll);  
    System.out.println("Name =" +s2.name+" , Roll no = "+s2.roll);  
    System.out.println("Name =" +s3.name+" , Roll no = "+s3.roll);  
}  
}
```

---

### Program 3:

```
public class mobile{  
  
    private String man;  
  
    private String os;  
    public String clr;  
    private int cost;  
    public mobile(String man,String os,String clr,int cost){  
        this.man=man;  
        this.os=os;  
        this.clr=clr;  
        this.cost=cost;  
    }  
    public String toString(){  
        return "manufacturer = "+man+"\n"+"operating_system = "+os+"\n"+"color = "+  
clr+"\n"+"cost = "+cost;  
    }  
    public static void main(String[]args){  
        mobile mobile=new mobile("Redmi","Andriod","Blue",34000);  
        System.out.println(mobile);  
    }  
}
```

}