WEEK 4 CLASSES AND OBJECTS

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

PROGRAMpublic class Mobile {

private String manufacturer;

private String operating_system;

private 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.color=color;

```
    this.cost=cost;
}
public void setManufacturer (String manufacturer){
    this.manufacturer=manufacturer;
}
public String getManufacturer(){
    return manufacturer;
}
public void setOperating_system(String operating_system){
    this.operating_system=operating_system;
}
public String getOperatingSystem(){
    return operating_system;
}
public void setColor(String color){
    this.color=color;
}
public String getColor(){
    return color;
}
public void setCost(int cost){
    this.cost=cost;
}
public int getCost(){
    return cost;
}
```

```
    @Override
    public String toString(){
        return
        "manufacturer = "+ manufacturer +"\n"+
        "operating_system = "+operating_system +"\n"+
        "color = " +color+"\n"+
        "cost = "+cost;
    }


        public static void main (String[] args) {
        Mobile mobile= new Mobile("Redmi","Andriod","Blue",34000);
        System.out.print(mobile);
    }
}
```

	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! ✓

Create a Class Mobile with the attributes listed below,

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Display the object details by overriding the toString() method.

For example:

Test	Result
1	manufacturer = Redmi operating_system = Andriod color = Blue cost = 34000

```
public class Mobile {
   private String manufacturer;
   private String operating_system;
   private 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.color=color;
      this.cost=cost;
   }
   public void setManufacturer (String manufacturer){
      this.manufacturer=manufacturer;
   }
   public String getManufacturer(){
      return manufacturer;
```

```
}
public void setOperating_system(String operating_system){
   this.operating_system=operating_system;
}
public String getOperatingSystem(){
   return operating_system;
}
public void setColor(String color){
   this.color=color;
}
public String getColor(){
   return color;
}
public void setCost(int cost){
   this.cost=cost;
}
public int getCost(){
   return cost;
}
@Override
public String toString(){
   return
   "manufacturer = "+ manufacturer +"\n"+
   "operating_system = "+operating_system +"\n"+
   "color = " +color+"\n"+
   "cost = "+cost;
```

```
    }


    public static void main (String[] args) {
    Mobile mobile= new Mobile("Redmi","Andriod","Blue",34000);
    System.out.print(mobile);
    }
}
```

	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! ✓

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

```
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 radius*3.1415926*radius;

   }
   public double calculateCircumference()   {
      // complete the statement
     return  2*3.1415926*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! ✓