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	<pre>manufacturer = Redmi operating_system = Andriod color = Blue cost = 34000</pre>

```
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);
}
```



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

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void setManufacturer(String manufacturer){
this.manufacturer= manufacturer;
}
String getManufacturer(){
  return manufacturer;}
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For example:

Test	Result
1	<pre>manufacturer = Redmi operating_system = Andriod color = Blue cost = 34000</pre>

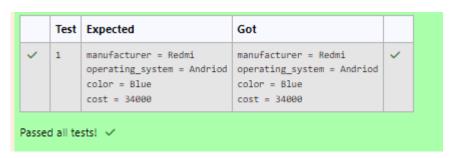
```
public class Mobile {
```

```
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);
}
```



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	~
~	2	6	Area = 113.10 Circumference = 37.70	Area = 113.10 Circumference = 37.70	~
~	3	2		Area = 12.57 Circumference = 12.57	~

}