

Unit #1.2

5) Write both procedural and object oriented programs to calculate the area of a

- a) Circle
- b) Square
- c) Rectangle
- d) Sphere

Program :

```
package AdvanceJAVA;
```

```
import java.util.Scanner;
```

```
public class Main {  
    double  
    radiusCircle, radiusSphere, lengthSquare, lengthRectangle, breadthRectangle;
```

```
    public Main() {  
        Scanner input = new Scanner(System.in);  
        System.out.println("Enter the radius of the Circle\n");  
        radiusCircle = input.nextDouble();  
        System.out.println("Enter the radius of the Sphere\n");  
        radiusSphere = input.nextDouble();  
        System.out.println("Enter the length of a side of the Square\n");  
        lengthSquare = input.nextDouble();  
        System.out.println("Enter the length of the Rectangle\n");  
        lengthRectangle = input.nextDouble();  
        System.out.println("Enter the breadth of the Rectangle\n");  
        breadthRectangle = input.nextDouble();  
    }
```

```
    public void CircleArea(Double radiusCircle) {  
        System.out.println("\nThe area of Circle is ::"+  
        (Math.PI*radiusCircle*radiusCircle));  
    }
```

```
    public void SphereArea(Double radiusSphere) {  
        System.out.println("\nThe area of Sphere is ::"+  
        (4*Math.PI*radiusSphere*radiusSphere));  
    }
```

```
    public void RectangleArea(Double lengthRectangle, Double  
    breadthRectangle) {  
        System.out.println("\nThe area of Rectangle is ::"+  
        (lengthRectangle*breadthRectangle));  
    }
```

```
    public void SquareArea(Double lengthSquare) {  
        System.out.println("\nThe area of Square is ::"+  
        (Math.pow(lengthSquare,2)));  
    }
```

```
    public static void main(String[] args) {  
        Main obj = new Main();  
        obj.CircleArea(obj.radiusCircle);  
        obj.RectangleArea(obj.lengthRectangle, obj.breadthRectangle);  
        obj.SquareArea(obj.lengthSquare);  
    }
```

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```
        obj.SphereArea(obj.radiusSphere);  
    }  
}
```

Output :

```
/home/aashish/.jdk/openjdk-14.0.1-1/bin/java -j  
Enter the radius of the Circle  
  
10  
Enter the radius of the Sphere  
  
10  
Enter the length of a side of the Square  
  
10  
Enter the length of the Rectangle  
  
10  
Enter the breadth of the Rectangle  
  
10  
  
The area of Circle is ::314.1592653589793  
  
The area of Rectangle is ::100.0  
  
The area of Square is ::100.0  
  
The area of Sphere is ::1256.6370614359173
```