

Unit #1.2

14) Write a program to create two classes Circle and Square, with appropriate fields and methods, in a package name shape. Create a separate class ShapeDemo to test the classes.

Program :

It consisted of three java classes and they are Circle, Square and ShapeDemo:

The code on file Circle is :

```
/*
 * To change this license header, choose License Headers in Project
Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */
package circleandsquare;

import java.util.Scanner;

/**
 *
 * @author aashish
 */
public class Circle extends Square{
    double radius;
    Scanner inputForCircle = new Scanner(System.in);

    public void RadiusSetter(){
        System.out.println("Enter the radius of the Circle");
        radius = inputForCircle.nextDouble() ;
    }

    public void CircleArea(){
        double area = Math.PI* Math.pow(radius, 2);
        System.out.println("The Area of Circle is :: "+area);
    }

}
```

And the another Square file consists of the code :

```
/*
 * To change this license header, choose License Headers in Project
Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */
package circleandsquare;

import java.util.Scanner;

/**
 *
 * @author aashish
 */
public class Square {
```

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```
Scanner inputForSquare = new Scanner(System.in);
double length;

public void LengthSetter() {
    System.out.println("Enter the length of one of the side of the
square");
    length = inputForSquare.nextDouble();
}

public void SqaureArea() {
    double area = Math.pow(length, 2);
    System.out.println("The Area of Square is :: " + area);
}

}
```

Lastly the defined file i.e in the question consists of the code :

```
/*
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 */
package circleandsquare;

/**
 *
 * @author aashish
 */
public class ShapeDemo extends Circle {

    /**
     * @param args the command line arguments
     */
    public static void main(String[] args) {
        ShapeDemo Object = new ShapeDemo();
        Object.RadiusSetter();
        Object.LengthSetter();
        Object.CircleArea();
        Object.SqaureArea();
    }

}
```

Output is :

```
run:
Enter the radius of the Circle
10
Enter the length of one of the side of the square
10
The Area of Circle is :: 314.1592653589793
The Area of Square is :: 100.0
BUILD SUCCESSFUL (total time: 11 seconds)
```