**Java Program to calculate area and circumference of circle**

In this tutorial we will see **how to calculate area and circumference of circle in Java**. There are two ways to do this:

1) With user interaction: Program will prompt user to enter the radius of the circle  
2) Without user interaction: The radius value would be specified in the program itself.

**Program 1:**

/\*\*

\* @description: Program to calculate area and circumference of circle

\* with user interaction. User will be prompt to enter the radius and

\* the result will be calculated based on the provided radius value.

\*/

import java.util.Scanner;

class CircleDemo

{

static Scanner sc = new Scanner(System.in);

public static void main(String args[])

{

System.out.print("Enter the radius: ");

/\*We are storing the entered radius in double

\* because a user can enter radius in decimals

\*/

double radius = sc.nextDouble();

//Area = PI\*radius\*radius

double area = Math.PI \* (radius \* radius);

System.out.println("The area of circle is: " + area);

//Circumference = 2\*PI\*radius

double circumference= Math.PI \* 2\*radius;

System.out.println( "The circumference of the circle is:"+circumference) ;

}

}

Output:

Enter the radius: 1

The area of circle is: 3.141592653589793

The circumference of the circle is:6.283185307179586

**Program 2:**

/\*\*

\* @description: Program to calculate area and circumference of circle

\* without user interaction. You need to specify the radius value in

\* program itself.

\*/

class CircleDemo2

{

public static void main(String args[])

{

int radius = 3;

double area = Math.PI \* (radius \* radius);

System.out.println("The area of circle is: " + area);

double circumference= Math.PI \* 2\*radius;

System.out.println( "The circumference of the circle is:"+circumference) ;

}

}

Output:

The area of circle is: 28.274333882308138

The circumference of the circle is:18.84955592153876