

# Rajalakshmi Engineering College

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## 2024\_28\_III\_OOPS Using Java Lab

### 2028\_REC\_OOPS using Java\_Week 1\_Q5

Attempt : 1  
Total Mark : 10  
Marks Obtained : 10

#### **Section 1 : Coding**

##### **1. Problem Statement:**

Emily has a beautiful circular garden in her backyard. She's interested in calculating two important measurements for her garden: the circumference and the area. To do this, she needs a program that can take the radius of her circular garden as input and provide the calculated circumference and area as output. The formulas she should use are as follows:

To calculate the circumference (C) of a circle, you can use the formula:

$$C = 2 * \pi * r$$

$$A = \pi * r^2$$

Where:

C represents the circumference.

A represents the area.

$\pi$  (pi) is approximately 3.14159.

r is the radius of the circle.

Emily is not a programmer, and she needs your help to create a program that will make these calculations for her garden.

#### ***Input Format***

The first line of input contains a single double-point number radius, representing the radius of the circle.

#### ***Output Format***

The output should consist of two lines:

The first line should print the circumference of the circle rounded to 2 decimal places, followed by the unit "meters".

The second line should print the area of the circle rounded to 2 decimal places, followed by the unit "square meters".

Refer to the sample output for formatting specifications.

#### ***Sample Test Case***

Input: 3.0

Output: Circumference: 18.85 meters

Area: 28.27 square meters

#### ***Answer***

```
// You are using Java
```

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

```
class GardenMeasurements {  
    public static void main(String[] args) {  
        Scanner sc = new Scanner(System.in);
```

```
// Read radius  
double radius = sc.nextDouble();  
  
// Constant value of π  
double pi = 3.14159;  
  
// Calculate circumference and area  
double circumference = 2 * pi * radius;  
double area = pi * radius * radius;  
  
// Output the results rounded to 2 decimal places  
System.out.printf("Circumference: %.2f meters\n", circumference);  
System.out.printf("Area: %.2f square meters\n", area);  
}  
}
```

Status : Correct

Marks : 10/10