Rajalakshmi Engineering College

Name: Nakshatra Pa
Email: 241901062@rajalakshmi.edu.in
Roll no: 241901062
Phone: 8838047354
Branch: REC
Department: CSE (CS) - Section 1
Batch: 2028
Degree: B.E - CSE (CS)

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.

π (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

```java
// You are using Java
import java.util.Scanner;
import java.math.BigDecimal;
import java.math.RoundingMode;
import java.text.DecimalFormat;
class Main{
    public static void main(String[] args){
```

```java
Scanner n=new Scanner(System.in);
float num=n.nextFloat();
float c=2*3.14159f*num;
float a=3.14159f*num*num;
BigDecimal bd=new BigDecimal(c);
bd=bd.setScale(2,RoundingMode.HALF_UP);
double rounded=bd.doubleValue();
DecimalFormat df=new DecimalFormat("#.00");
System.out.println("Circumference: "+df.format(rounded)+" meters");
BigDecimal bid=new BigDecimal(a);
bid=bid.setScale(2,RoundingMode.HALF_UP);
double rounde=bid.doubleValue();
DecimalFormat def=new DecimalFormat("#.00");
System.out.println("Area: "+def.format(rounde)+" square meters");
    }
}
```

Status : Correct   *Marks : 10/10*