EXPERIMENT NO. - 04

AIM: Edit/compile/run a program to read the radius of a circle and print the area of the circle.

THEORY:

Calculate the Area of the Circle using Python

INPUT FORMAT:

The input of the code consists of the integer "R", which represents the radius of the circle.

OUTPUT FORMAT:

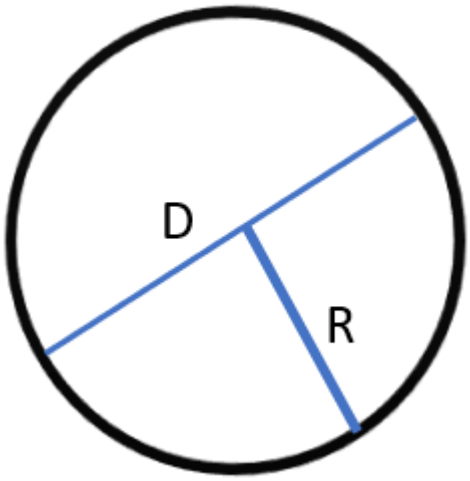
The output of the code will print the area of the circle.

Algorithm for Calculating the Area of the Given Circle

Following are the steps we will use for calculating the area of the given circle:

- **Step 1:** We have to pass the input using the input () function. The input will be corresponding to the radius of the given circle.
- **Step 2:** The Area of the circle will be calculated by using the formula of the Area = πR2.

Area of Circle = π * R * R.



Where, **π (PI)** = 3.14

R = Radius of circle.

D or (2R) = Diameter of Circle, (R + R).

- **Step 3:** Print the output of the code, that is, the area of the given circle.

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Methods for finding the Area of the Given Circle using Python

Conclusion

In this experiment, we have shown three methods for calculating the area of the given circle. To calculate the area of the given circle, the user must know the radius or the diameter of the circle. Among the three methods, the first one is the easiest and most direct method.

Hence, we have successfully studied about program to read the radius of a circle and print the area of the circle.

PROGRAM:

EXPT 4) A:

Method 1: Find the area of the given circle using the math module.

```
1. import math as M
2. Radius = float (input ("Please enter the radius of the given circle: "))
3. area_of_the_circle = M.pi* Radius * Radius
4. print (" The area of the given circle is: ", area_of_the_circle)
```

Output:

```
lease enter the radius of the given circle:  3
 The area of the given circle is:  28.274333882308138
```

EXPT 4) B:

Method 2: Calculate the area of the given circle using π

```
1. π = 3.14
2. Radius = float (input ("Please enter the radius of the given circle: "))
3. area_of_the_circle = π * Radius * Radius
4. print (" The area of the given circle is: ", area_of_the_circle)
```

Output:

```
Please enter the radius of the given circle:  3
 The area of the given circle is:  28.259999999999998
```

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EXPT 4) C:

Method 3: Calculate the area of the given circle by using function

```
1. import math
2.
3. def area_of_the_circle (Radius):
4.     area = Radius** 2 * math.pi
5.     return area
6.
7. Radius = float (input ("Please enter the radius of the given circle: "))
8. print (" The area of the given circle is: ", area_of_the_circle (Radius))
```

Output:

```
Please enter the radius of the given circle:  3
 The area of the given circle is:  28.274333882308138
```