**Practical No: 5**

**Aim:** Write /execute simple ‘Python’ program: calculate the area and perimeter of the Square, and the volume & perimeter of the cone.

**Course Outcome:** Write ‘Python’ programs using arithmetic expressions and control structure.

**Theory:**

Area of Square:

* Firstly, we will take input from the user for the side value of the square using the input() method.
* Now, calculate the area of the square by using the formula as Area = side\*side
* At last, print the area of the square to get the output.

Perimeter of Square:

find perimeter of any square, use following formula:

per = 4\*side

Here **per** indicates to perimeter, and **side** indicates to length of square's side.

That is, as you all knows that perimeter of a square can be calculated by adding all its four sides, or just by multiplying any side with 4.

Therefore, if a square has its side length as 2 meters, then its perimeter will be **2+2+2+2** or **4\*2**, that is equal to **16**.

Perimeter of cone:

Perimeter of the cone is the circumference of the base, which is calculated using given formula: 2\*pi\*r

Volume of Cone:

The amount of space inside the Cone is called as Volume. If we know the radius and height of the Cone then we can calculate the Volume using the formula:  
Volume = 1/3 πr²h (where h= height of a Cone)

**Requirements: Computer, Python 3.3.34, Vs Code.**

**Flowchart:**

**Program:**

**1)**

# Write a program to calculate the area and the perimeter of the square

Side = int(input("Enter the Side of the square:"))

print("The Area of the given Square:",(Side^2))

print("The Perimeter of the Square:",(4\*Side))

**2)**

# Write a program to calculate perimeter and volume of the cone

from cmath import pi

Height = int(input("Enter Height of the Cone: "))

Radius = int(input("Enter Radius of the Cone: "))

Perimeter = 2\*pi\*Radius

print("Perimeter of the Cone is : ", Perimeter)

Volume = (1/3)\*pi\*(Radius\*Radius)\*Height

print("Volume of the Cone is : ",Volume)

**Output/Result:**

**1)**

Enter the Side of the square:4

The Area of the given Square: 6

The Perimeter of the Square: 16

**2)**

Enter Height of the Cone: 7

Enter Radius of the Cone: 4

Perimeter of the Cone is : 25.132741228718345

Volume of the Cone is : 117.28612573401894

**Conclusion: hence, we have calculated the area, perimeter of square and perimeter and volume of cone.**