Task-3:- Importing python modules and packages in the python programing.

Aim:- To write python demonstrating importing python modules and packages.

@ you are tasked with developing a modular, calculator applicati in python. The Calculator should support basic arithmetic operating addition, substraction, multiplication and division. Each operation should be implemented in a seperate module Additionally. you should create a main program to handle user input, call you appropriate module and display the results.

Algorithm:-

1) Define functions for addition, subtraction, multiplication and division.
2) Handle division by zero by raising an error if the divisor is zero
3) Input the module (my math) containing these functions
4) Initialize two numbers (a=10, b=5)
5) Call each function using my math.<function-name>(a,
6) Print the results of all operations.

Program:-

```
def add(a,b):
return a+b
def subtract(a,b):
return a-b
```

```
def multiply (a,b):
#return a*b
def divide (a,b):
 if b==0;
raise value Error ("Cannot divide by zero")
 return a/b
 input my math
  a=10
  b=5
Print ("Addition :", my math . add (a,b))
Print ("Substraction:", my math , subtract (a,b))
Print ("Multiplication:", my math . multiply (a,b))
Print ("Division:", my math . divide (a,b))
```

(b) you are working on a python project that requires you to perform various mathematical, operations and geometric area of calculations. To organize your code better, you decide to create a package named my package which included subpackages pack 2. and pack1. with two modules: math functions. Demonstrate the use of the functions by performing a calculation and printing the result.

Algorithm:-

1. Create math functions .py module
2. Create are functions :py modules
3. Create __int__.py files in pack1, and pack2:
4. Create main. py:

Output :— (a)

Addition : 15

Subtraction : 5

Multiplication : 50

Division : 20

5: Print the output as Expected.

Program.-

1. Create the .math.functions.py module

```
def add (a+b):
return .a+b
def subtract (a,b);
return a-b
def multiply (a,b);
return .a*b
def .divide .(a,b);
  if .b==0:
return ." Error: Division .by zero",
  return .a/b;
```

2- Create the area .functions .py module.

```
  import math.
  def .circle + area .(radius):
return .math .pi * radius * radius.
def .rectangle - area .(length, width):
 return .length * Width.
```

3- Create __ int __ .py .in each .package .folder .(Pack1.and pack2)

```
from .math functions . import .add , substract, multiply . ,divide from
area. .functions. import .circle -- area, rectangle -- area, triangle
area.
```

4. Create .the main .. py file

```
from pack import .math . function
from pack .import .area . function.
```

Output :-

Addition : 15

Subtraction : 5

Multiplication : 50

Division : 20

Circle area : (radius = 7) : 153.93804002589985

Rectangle. Area (5x10) : 50

Triangle Area : (base = 6, height = 8) : 24.0

```
# Using math functions
Print("Addition:", math.functions.add(10,5))
Print("Subtraction:", math.functions.subtract(10,5))
Print("Multiplication:", math.functions.multiply(10,5))
Print("Division:", math.functions.divide(10,5))
# Using area functions
Print("Circle Area (radius=7):", area.functions.circle_area(7))
Print("Rectangle Area (5x10):", area.functions.rectangle_area(5,10))
Print("Triangle Area (base=6, height=5):", area.functions.
triangle_area(6,5))
```

Result:—

Thus, The program for importing python modules and Packages was Successfully excuted and the output was verified.

EX No.	3
PERFORMANCE (5)	5
RESULT AND ANALYSIS (5)	5
VIVA VOCE (5)	5
RECORD (5)	
TOTAL (20)	15
SIGN WITH DATE	