TASK-3: Importing python modules and packages in the python programming.

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

@ you are tasked with developing a modular calculator application in python. the calculator should support basic arithmetic operations 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 division is zero
3. Import the module (mymath) containing these functions.
4. Initialize two numbers (a=10, b=5)
5. Call each function using mymath.<function_name>(a,b)
6. print the results of all operations

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

```
def divide(a,b):
    if b==0
raise value error("cannot divide by zero")
    return a/b
import my math
a=10
b=5
print("Addition:", mymath.add(a,b))
print("subtraction:", mymath.subtract(a,b))
print("multiplication:", mymath.multiply(a,b))
print("Division:", mymath.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 it a package named mypackage which includes subpackages pack1 and pack2 with two modules: mathfunction and area function demonstrate the use of the functions by performing a calculation & printing the result

Algorithm:

1. Create math functions.py module:
2. create area function.py module:
3. Create __init__.py files in pack1 & pack2
4. Create main.py:
5. Print the output as expected

output

Addition: 15

Subtraction: 5

Multiplication: 50

Division: 2.0

program:

1. create the mathfunctions.py module

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

2. create the areafunctions.py modules

```
 import math
 def circle_area(radius):
 return math.pi*radius*radius
 def circle_area(length,width):
   return length*width
```

output:

Addition: 15
subtraction: 5
Multiplication: 50
Division : 2.0
Circle Area (radius=7): 153.93846025899
Rectangle Area (5x10): 50
Triangle Area(base=6, height=8): 24.0

ok

3. Create ... init ... py in each package folder (pack1 and pack2) from .mathfunctions import add, subtract, multiply, divide from areafunctions import circle_area, rectangle_area, triangle_area

4. create the main.py file

```
from pack import mathfunctions
from pack import areafunction

print("Addition", mathfunction.add(10,5))
print("subtraction", mathfunction.sub(10,5))
print("multiplication", mathfunction.multiply(10,5
print("Division", mathfunction.Divide(10,5))
#using area function
print("circle area(radius=7):", areafunction
print("rectangle area(5x10):", areafunction.
rectangle_area(5,10))
print("Triangle area(b=6, height=8):",
areafunctions, triangle_area(6,8))
```

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Result:

Thus the program for importing python modules and packages was successfully executed and the outputs verified.