TASK-3 Importing Python modules and packages in Python programming. 11/8/25

Aim: To write python demonstrating importing Python modules and packages

a. Youare tasked with developing a modular calculator application in python. The calculator should support basic arithmetic operations: add, subt, multiple & div. Each operation should be implemenkd in a seperate module. Additionally, you should create a main program to handle user input, call the appropriate module & display the results.

ALGORITHM:

1. Define functions for add, subtraction, multiplication & Div.
2. Handle div by zero by raising an error if divisor is '0'.
3. Import the module (mymath) containing these functions.
4. Intialite 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 multiply(a,b):
    return a*b
def divide(a,b):
    if b==0:
        raise ValueError("cannot divide by zero")
    return a/b
```

```
import mymath
a=10
b=5
Print("Addition:", mymath.add(a,b)
```

```
Print ("subtraction:", mymath.subtract (a,b))
Print ("Multiplication:", mymath.multiply (a,b))
Print ("Divison:", mymath.divide (a,b))
```

b. You are working on a python project that requires you to perform various mathematical operations & geometric area calculations. To organize your code better, you decide to create a package named mypack-age which includes subpackages pack1 & 2 with 2 modules: mathfunctions and areafunctions. Demonstrate the use of the functions by performing a few calculations and printing the results.

ALGORITHM:

1. Create mathfunctions.Py module:
2. Create areafunctions.Py module:
3. Create _init_.Py files in pack1 and pack2:
4. Create main.Py:
5. Print the output as expected.

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 divide (a,b):
    if b==0
    return "Error! Divison by zero."
        return a/b
```

OUTPUT:

Restart : C

Addition : 15

Subtraction : 5

Multiplication : 50

Division : 2

OUTPUT:

```
Restart: c:/Users/91979/Desktop
Addition : 15
Subtraction : 5
Multiplication : 50
Divison : 2
Circle Area (radius = 7) : 153.98804002589985
Rectangle Area (5x10) : 50
Triangle Area (base:6, height:8) : 24.0
```

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
def triangle_area(base, height):
    return 0.5 * base * height
```

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 areafunctions
# using math functions
print("Addition:", mathfunctions.add(10,5))
Print("subtraction:" mathfunctions.subtract(10,5))
Print("Multiplication:" mathfunctions.multiply(10,5))
Print("Divison": mathfunctions.divide(10,5))
# using area functions
Print("Circle Area (radius:7):", areafunctions.circle_area(7))
Print("Rectangle Area (5x10):", areafunctions.rectangle_area(5,10))
Print("Triangle Area (b:6,h:8):", areafunctions.triangle_
                                    area(6,8))
```

RESULT: Thus, the program for importing python mod
and packages was sucessfully executed & the
Output was verified.

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