Task :-3 Date:- 11/08/25

Task 3 :- importing Python modules and packages in Python programming.

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

a. you are tasked with developing a modular calculator application in python. the calculator should support basic arithmetic operations: addition, subtraction, multiplication and division. each operation should be implemented in a separate module. Additionally, you should create a main program to handle user input, call the 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. 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 multiply(a,b):
  return a*b.
def divide(a,b):
   if b==0:
raise value error("cannot divide by zero").
  return a/b.
import mymath.
a=10
 b=5.
```

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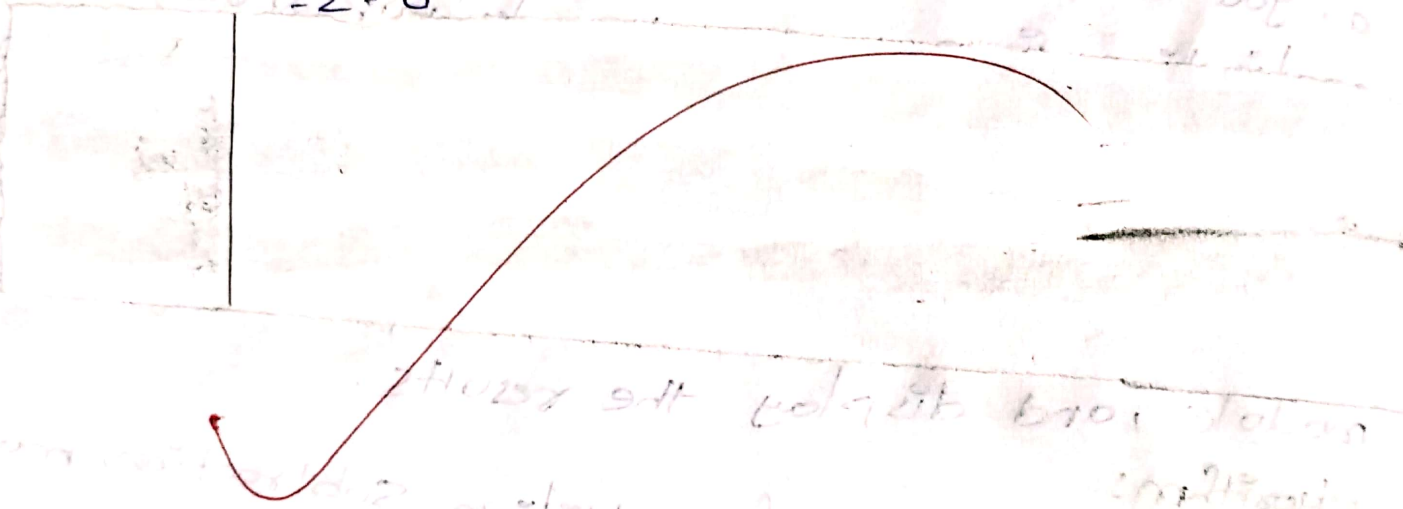
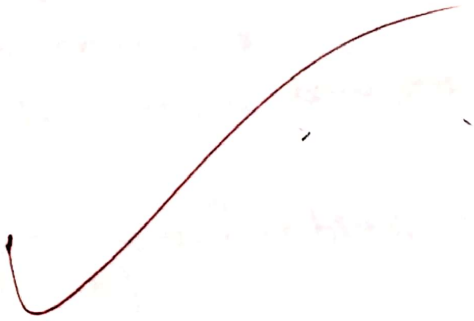
   if  b==0:
raise value error("cannot divide by zero").
  return a/b.
import mymath.
a=10
 b=5.
```

Output:-

Addition : 15.
Subtraction : 5.
multiplication : 50.
Division : 2.0.



```
Print ("Addition:", mymath.add (a,b)).
print ("subtraction:", mymath.subtract(a,b)).
Print ("multiplication:",mymath.multiply(a,b))
print ("Division:",mymath.divide (a,b)).
```



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

Result :. Thus the program for importing Python module and packages was successfully executed and the output was verified.

b) you are working on a python project that requires you to perform various mathematical operations and geometric area calculations. To organize your code better, you decide to create a package named mypackage which includes sub package pack1 and pack2 with two modules: mathfunctions and areafunctions demonstrate the use of the functions by performing a few calculations. and printing the results.

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

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 are 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! Division by zero".
    return a/b
```

2. create the areafunctions.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.
```

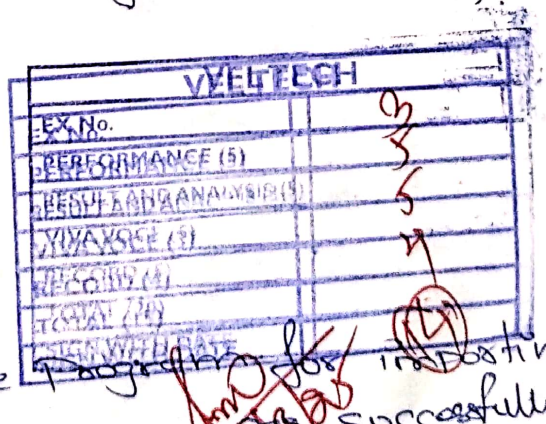
Output:

Addition : 15.
Subtraction : 5.
multiplication : 50.
Division : 2.0.
Circle Area (radius=7) : 153.93804002589985
Rectangle Area (5x10) : 50.
Triangle Area (base=6, height=8) : 24.0.

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("multiplication:")
Print("Subtraction:",
mathfunctions.subtract(10,5))
Print("multiplication:")
mathfunctions. multiply.(10,5)).
Print("Division:",
mathfunctions .divide(10,5)).
# using area functions.
print("circle Area (radius=7):",
areafunctions. circle_area(7)).
Print("Rectangle Area (5x10):",
area functions. rectangle_area (5,10)).
Print("Triangle Area (base=6, height=8):",
area functions. triangle_area(6,8))
```



Result:- Thus the programs for importing python modules and packages and the output was verified. successfully executed