

Task 3:- Importing python modules and packages in the python programming

Aim:- To write python demonstrating python modules and packages

① You are tasked with developing a modular calculator application in Python. The calculator should support basic arithmetic operating 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 result

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 number ( $a=10, b=5$ )
- 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
```

Output :-

Addition :- 15

Subtraction : 5

multiplication : 50

Division : 20

```

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("Subtract:", mymath.sub(a,b))
print("Multiplication:", mymath.multiply(a,b))
print("Division:", mymath.divide(a,b))

```

⑥ 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 geometric area of calculation pack1 and pack2 with two modules: mathfunction and area functions demonstrate the use of the function by performing a calculation and printing the result

### Algorithm :-

- 1) Create mathfunctions.py module
- 2) Create areafunctions.py module
- 3) Create ---int---.py files in Pack1 and Pack2;
- 4) Create main.py;
- 5) Print the output as expected

OUTPUT:-

Addition : 15

Subtraction : 5

Multiplication : 50

Division : 2.0

Circle. Area (Radius=7) = 153.9380 400256

Rectangle. Area =  $(5 \times 10)$  = 50

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

~~dx~~

- subtraction

## Program

1) Create the mathfunction.py module

```
def add (a,b):  
    return a+b  
def subtraction (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
```

3. Create `--init__.py` in each package folder  
 (Pack1 and Pack2) from `math` function import  
 add, subtract, multiply, divide from area function  
 import circle-area, rectangle-area, triangle-area  
 4. Create the `main.py` file  
 from Pack1 import area functions  
 from pack2 import math functions  
~~# Using math functions~~  
 print ("Addition", math function.add(10,5))  
 print ("Subtract", math function.subtract(10,5))  
 print ("multiply", math function.multiply(10,5))  
 print ("Division", math function.divide(10,5))  
~~# Using area function~~  
 print ("Circle area (radius=7):", area function.circle\_area(7))  
 print ("Rectangle area (5x10):", area function.rectangle\_area(5,10))  
 print ("Triangle area (base=6, height=8):", area functions.triangle\_area(6,8))

Result:- Thus the program for importing python modules and packages was successfully executed and the

VELTE	DIAVUE
PERFORMANCE (5)	5
RESULT AND ANALYSIS (5)	5
VIVA VOCE (5)	5
RECORD (5)	5
TOTAL (20)	10
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