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GitHub Link: https://github.com/Beshair-Khan/Python-Lab

Lab 03

Task 1: Write a python program to take 2 numbers as input and perform all arithmetic operations on them.

```python
a = float(input("Enter first number: "))
b = float(input("Enter second number: "))
print("Addition:", a + b)
print("Subtraction:", a - b)
print("Multiplication:", a * b)
print("Division:", a / b)
print("Modulus", a % b)
print("Power:", a ** b)
print("Floor Division:", a // b)
```

Output

```
PROBLEMS    OUTPUT    DEBUG CONSOLE    TERMINAL    PORTS

PS D:\Uni programs\Lab manuals> & D:/Python/python.exe "d:/Uni programs/Lab manuals/lab task1.py"
Enter first number: 86
Enter second number: 77
Addition: 163.0
Subtraction: 9.0
Multiplication: 6622.0
Division: 1.1168831168831168
Modulus 9.0
Power: 9.044420501381181e+148
Floor Division: 1.0
```

Task 2: Create a function that takes two numbers and return their sum, difference, product, and quotient.

```python
def calculate_operations(a, b):
    sum_result = a + b
    difference = a - b
    product = a * b
    quotient = a / b
    return sum_result, difference, product, quotient
num1 = float(input("Enter first number: "))
num2 = float(input("Enter second number: "))
sum_val, diff_val, prod_val, quot_val = calculate_operations(num1, num2)
print("Sum:", sum_val)
print("Difference:", diff_val)
print("Product:", prod_val)
print("Quotient:", quot_val)
```

Output

```
PROBLEMS    OUTPUT    DEBUG CONSOLE    TERMINAL    PORTS

PS D:\Uni programs\Lab manuals> & D:/Python/python.exe "d:/Uni programs/Lab manuals/lab task1.py"
Enter first number: 45
Enter second number: 77
Sum: 122.0
Difference: -32.0
Product: 3465.0
Quotient: 0.5844155844155844
PS D:\Uni programs\Lab manuals>
```

Task 3: Write a python script to find the remainder when one number is divided by another.

```python
num1 = int(input("Enter the dividend: "))
num2 = int(input("Enter the divisor: "))
remainder = num1 % num2
print("Remainder:", remainder)
```

Output

```
PROBLEMS    OUTPUT    DEBUG CONSOLE    TERMINAL    PORTS

PS D:\Uni programs\Lab manuals> & D:/Python/python.exe "d:/Uni programs/Lab manuals/lab task1.py"
Enter the dividend: 34
Enter the divisor: 44
Remainder: 34
PS D:\Uni programs\Lab manuals>
```

Task 4: Write a program to calculate the area of a circle using the formula: area=pi*r^2.

```python
import math
radius = float(input("Enter the radius of the circle: "))
area = math.pi * radius ** 2
print("Area of the circle:", area)
```

Output

```
PROBLEMS    OUTPUT    DEBUG CONSOLE    TERMINAL    PORTS

PS D:\Uni programs\Lab manuals> & D:/Python/python.exe "d:/Uni programs/Lab manuals/lab task1.py"
Enter the radius of the circle: 6
Area of the circle: 113.09733552923255
PS D:\Uni programs\Lab manuals>
```

Task 5: Implement a program that takes a number as input and returns its square and cube using exponentiation.

```python
num = float(input("Enter a number: "))
square = num ** 2
cube = num ** 3
print("Square:", square)
print("Cube:", cube)
```

Output

```
PROBLEMS    OUTPUT    DEBUG CONSOLE    TERMINAL    PORTS

PS D:\Uni programs\Lab manuals> & D:/Python/python.exe "d:/Uni programs/Lab manuals/lab task1.py"
Enter a number: 4.8
Square: 23.04
Cube: 110.59199999999998
PS D:\Uni programs\Lab manuals>
```

Task 6: Create a simple calculator in python that allows the user to choose an operation (addition, subtraction, etc) and inputs two numbers.

```python
print("Select Operation:")
print("1. Addition (+)")
print("2. Subtraction (-)")
print("3. Multiplication (*)")
print("4. Division (/)")
choice = input("Enter your choice (1/2/3/4): ")
num1 = float(input("Enter first number: "))
num2 = float(input("Enter second number: "))
if choice == '1':
    result = num1 + num2
    print("Result:", result)
elif choice == '2':
    result = num1 - num2
    print("Result:", result)
elif choice == '3':
    result = num1 * num2
    print("Result:", result)
elif choice == '4':
    if num2 != 0:
        result = num1 / num2
        print("Result:", result)
    else:
        print("Error: Cannot divide by zero!")
else:
    print("Invalid choice!")
```

Output

```
PROBLEMS    OUTPUT    DEBUG CONSOLE    TERMINAL    PORTS

PS D:\Uni programs\Lab manuals> & D:/Python/python.exe "d:/Uni programs/Lab manuals/lab task1.py"
Select Operation:
1. Addition (+)
2. Subtraction (-)
3. Multiplication (*)
4. Division (/)
Enter your choice (1/2/3/4): 3
Enter first number: 9
Enter second number: 18
Result: 162.0
PS D:\Uni programs\Lab manuals> |
```