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LAB 4:

TASK 01

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

Program:

```
num1 = float(input("Enter first number: "))
num2 = float(input("Enter second number: "))
print("Addition:", num1 + num2)
print("Subtraction:", num1 - num2)
print("Multiplication:", num1 * num2)
print("Division:", num1 / num2)
print("Modulus (Remainder):", num1 % num2)
print("Exponent (Power):", num1 ** num2)
print("Floor Division:", num1 // num2)
```

```
Enter first number:  2
Enter second number:  7
Addition: 9.0
Subtraction: -5.0
Multiplication: 14.0
Division: 0.2857142857142857
Modulus (Remainder): 2.0
```

TASK 02

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

Program:

```
]: def calculate(a, b):
    sum_result = a + b
    difference = a - b
    product = a * b
    if b != 0:
        quotient = a / b
    else:
        quotient = "Undefined (division by zero)"

    return sum_result, difference, product, quotient
num1 = float(input("Enter first number: "))
num2 = float(input("Enter second number: "))
sum_result, difference, product, quotient = calculate(num1, num2)
print("Sum:", sum_result)
print("Difference:", difference)
print("Product:", product)
print("Quotient:", quotient)
```

```
Enter first number:  6
Enter second number:  9
Sum: 15.0
Difference: -3.0
Product: 54.0
Quotient: 0.6666666666666666
```

TASK 03

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

Program:

```
num1 = int(input("Enter the first number: "))
num2 = int(input("Enter the second number: "))
remainder = num1 % num2
print("The remainder is:", remainder)
```

```
Enter the first number:  4
Enter the second number:  9
The remainder is: 4
```

TASK 04

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

Program:

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

# Showing the result
print("Area of the circle is:", area)
```

```
Enter the radius of the circle:  7
Area of the circle is: 153.93804002589985
```

Task 05:

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

Program:

```
[27]: num = float(input("Enter a number: "))
      square = num ** 2
      cube = num ** 3
      print("Square of the number is:", square)
      print("Cube of the number is:", cube)

      Enter a number:  5
      Square of the number is: 25.0
      Cube of the number is: 125.0
```

TASK 06:

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

Program:

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

```
else:
    print("Invalid choice.")
```

```
Select operation:
1. Addition
2. Subtraction
3. Multiplication
4. Division
Enter choice (1/2/3/4):  3
Enter first number:  8
Enter second number:  6
Result: 48.0
```