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Github link NuzhatQureshi90/Pythons-lab-manual-IT-A-: Python lab manuals

LAB MANUAL #03

TASK 01

Q.1. 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:  5
Enter second number:  8
Addition: 13.0
Subtraction: -3.0
Multiplication: 40.0
Division: 0.625
Modulus (Remainder): 5.0
Exponent (Power): 390625.0
Floor Division: 0.0
```

TASK 02

Q.1. Create a function that takes two numbers and return their sum, difference, product, and quotient.

Program:

```
def calculate(num1, num2):
    sum_result = num1 + num2
    difference = num1 - num2
    product = num1 * num2
    quotient = num1 / num2
    return sum_result, difference, product, quotient
a = float(input("Enter first number: "))
b = float(input("Enter second number: "))
add, sub, mul, div = calculate(a, b)
print("Sum:", add)
print("Difference:", sub)
print("Product:", mul)
print("Quotient:", div)
```

```
Enter first number:  7
Enter second number:  4
Sum: 11.0
Difference: 3.0
Product: 28.0
Quotient: 1.75
```

TASK 03

Q.1. 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:  6
Enter the second number:  2
The remainder is: 0
```

TASK 04

Q.1. 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:  5
Area of the circle is: 78.53981633974483
```

Task 05:

Q.1. Implement a program that takes a number as input and returns its square and cube using exponentiation.

Program:

```
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:  7
Square of the number is: 49.0
Cube of the number is: 343.0
```

TASK 06:

Q.1. 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.")
```

```
Select operation:
1. Addition
2. Subtraction
3. Multiplication
4. Division
Enter choice (1/2/3/4):  6
Enter first number:  9
Enter second number:  4
Invalid choice.
```