

python programming experiments

exp :

1) Write a program to perform arithmetic operations such as addition, subtraction, multiplication, and division based on user input

Program

```
# Arithmetic Operations Program

# Taking input from the user
num1 = float(input("Enter the first number: "))
num2 = float(input("Enter the second number: "))

# Performing arithmetic operations
addition = num1 + num2
subtraction = num1 - num2
multiplication = num1 * num2

# Handling division safely
if num2 != 0:
    division = num1 / num2
else:
    division = "Division by zero is not allowed"

# Displaying results
print("Results:")
print("Addition:", addition)
print("Subtraction:", subtraction)
print("Multiplication:", multiplication)
print("Division:", division)
```

Output

```
Enter the first number: 10
Enter the second number: 5

Results:
Addition: 15.0
Subtraction: 5.0
Multiplication: 50.0
Division: 2.0
```

exp:

2) Write a Python program to check if a number is positive, negative or zero

Program

```
num = float(input("Enter a number: "))

if num > 0:
    print("The number is positive")
elif num < 0:
    print("The number is negative")
else:
    print("The number is zero")
```

Output

```
Enter a number: 7
The number is positive
```

Experiment – 3

Write a Python program to check whether a number is Odd or Even

Program

```
# Program to check odd or even

num = int(input("Enter a number: "))

if num % 2 == 0:
    print(num, "is an Even number")
else:
    print(num, "is an Odd number")
```

Output

```
Enter a number: 8
8 is an Even number
```

OR

```
Enter a number: 5
5 is an Odd number
```

Experiment – 4

Write a Python program to check Leap Year

Program

```
# Program to check leap year

year = int(input("Enter a year: "))

if (year % 400 == 0) or (year % 4 == 0 and year % 100 != 0):
    print(year, "is a Leap Year")
else:
    print(year, "is not a Leap Year")
```

Output

```
Enter a year: 2024
2024 is a Leap Year
```

OR

```
Enter a year: 2023
2023 is not a Leap Year
```

Experiment – 5

Write a Python program to check Prime Number

Program

```
# Program to check Prime Number

num = int(input("Enter a number: "))

if num <= 1:
    print(num, "is not a Prime Number")
else:
    for i in range(2, num):
        if num % i == 0:
            print(num, "is not a Prime Number")
            break
    else:
        print(num, "is a Prime Number")
```

Output

```
Enter a number: 7
```

7 is a Prime Number

Experiment – 6

Write a Python program to find factorial of a number

Program

```
# Program to find factorial of a number

num = int(input("Enter a number: "))

factorial = 1

if num < 0:
    print("Factorial is not defined for negative numbers")
else:
    for i in range(1, num + 1):
        factorial = factorial * i
    print("Factorial of", num, "is", factorial)
```

Output

```
Enter a number: 5
Factorial of 5 is 120
```