**Problem 1**

# Write a program to demonstrate the use of different operators in python.  
  
def operators\_demo(a, b):  
 print("Addition:", a + b)  
 print("Subtraction:", a - b)  
 print("Multiplication:", a \* b)  
 print("Division:", a / b if b != 0 else "Undefined")  
 print("Modulus:", a % b if b != 0 else "Undefined")  
 print("Floor Division:", a // b if b != 0 else "Undefined")  
 print("Exponentiation:", a \*\* b)  
 print("Equal:", a == b)  
 print("Not Equal:", a != b)  
 print("Greater:", a > b)  
 print("Smaller:", a < b)  
 print("Logical AND:", a > 0 and b > 0)  
 print("Logical OR:", a > 0 or b > 0)  
 print("Logical NOT:", not(a > 0))  
  
a = int(input("Enter first number: "))  
b = int(input("Enter second number: "))  
operators\_demo(a, b)

**Output**

Enter first number: 10  
Enter second number: 5  
Addition: 15  
Subtraction: 5  
Multiplication: 50  
Division: 2.0  
Modulus: 0  
Floor Division: 2  
Exponentiation: 100000  
Equal: False  
Not Equal: True  
Greater: True  
Smaller: False  
Logical AND: True  
Logical OR: True  
Logical NOT: False