**Lab-1 - Assignment**

1. Create a program that takes two numbers as input, adds them, and prints the result. Ensure they handle cases where the inputs might be strings (requiring type conversion).

**Code :**

a = (int)(input("Enter the first number "))

b = (int)(input("Enter the second number "))

res = a + b

print("The sum is ", res)

2. Write a program that calculates the area of a rectangle using user-

input length and width, and then compare it with the area of a square with side length half of the rectangle's width.

**Code :**

l = (float)(input("Enter the length of the rectangle "))

b = (float)(input("Enter the breadth of the rectangle "))

rectangle\_area = l \* b

print ("The area of the rectangle: ", rectangle\_area)

a = b / 2;

square\_area = a \* a

print ("The area of the square: ", square\_area)

if (rectangle\_area > square\_area):

    print("Area of the rectangle is greater than that of the square")

else :

    print("Area of the square is greater than that of the rectangle")

3. Write a program that takes an integer input, checks if it's even or

odd, and prints a message accordingly. Additionally, use the modulo

operation for this determination.

**Code :**

n = (int)(input("Enter any number: "))

if ((n % 2) == 0):

    print("The entered number is even")

else:

    print("The entered number is odd")

1. Create a Python program that functions as an advanced calculator. It

should take user input for mathematical expressions and evaluate them, supporting basic operations, parentheses, and scientific notation.

**Code:**

expression = (input("Enter any expression: "))

res = eval(expression)

print("Answer: ", res)

1. Write a Python program to generate the Fibonacci series up to a specified number of terms. Use a while loop and branching to implement the logic.

**Code:**n = int(input("Enter the number of items: "))

a = 0

b = 1

while(n > 0):

    print(a)

    c = a + b

    a = b

    b = c

    n = n - 1

1. Create a program that takes user input and checks whether the entered number is a prime number or not. Utilize a for loop and branching statements.

**Code:**

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

c = 0

for i in range(1, int(n / 2)):

    if(n % i == 0):

        c = c + 1

if(c > 2):

    print(n," is not prime")

else:

    print(n," is prime")