
Course Instructor: **Md. Asif Khan Rifat**
Course: **CSE103 (Structured Programming)**

Lab: **04**

Topics Today

1. While loop
2. For loop
3. Do While loop

Problem 1

You will take several integer numbers as inputs until the user enters -1. Then calculate the difference between the Highest and Lowest number.

Sample Input	Sample Output
7 5 1 9 5 -1	8
0 7 8 4 9 -1	9

Problem 2

Write a program in C to check whether a number is a palindrome or not.

Test Data :

Input a number: 121

Expected Output :

121 is a palindrome number.

Problem 3

Determine whether a given positive integer is prime.

Sample Input	Sample Output
13	Prime Number
60	Not a Prime Number

Problem 4

Find how many digits a given number has.

Sample Input: 9876

Sample Output: 4

Problem 5

Compute the sum of the following series:

$$-1+2^2-3^2+4^2- \dots + \text{up to } N^{\text{th}} \text{ term}$$

Problem 6

Compute the GCD (Greatest Common Divisor) of two numbers using a loop.

Problem 7

Find the Sum of Digits Until a Single Digit is Left

Input: 9875

Output: 2 (9+8+7+5 = 29 → 2+9 = 11 → 1+1 = 2)

Problem 8

Print the first N terms of the Fibonacci sequence.