**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Advanced Programming in C++**

**Lab Exercise 5.23.2023**

1. n! means *n* (*n* 1) ... 3 2 1

Find the sum of the digits in the number 100!

1. The Fibonacci sequence is defined by the recurrence relation:

F*n* = F*n* 1 + F*n* 2, where F1 = 1 and F2 = 1.

Hence the first 12 terms will be:

F1 = 1

F2 = 1

F3 = 2

F4 = 3

F5 = 5

F6 = 8

F7 = 13

F8 = 21

F9 = 34

F10 = 55

F11 = 89

F12 = 144

The 12th term, F12, is the first term to contain three digits.

What is the first term in the Fibonacci sequence to contain 100 digits?

1. Write a program to find HCF (Highest Common Factor) of two numbers.    
   Test Data :  
   Input 1st number for HCF: 24  
   Input 2nd number for HCF: 28  
   Expected Output :  
    HCF of 24 and 28 is : 4