Lab 9

Q1- Write a C++ program to find the HCF (Highest Common Factor) of two numbers.

Determine the HCF of two numbers

List of Factors of 36 :
     1 x 36, 2 x 18, 3 x 12, 4 x 9, 6 x 6
List of Factors of 54 :
     1 x 54, 2 x 27, 3 x 18, 6 x 9

36 :   1   2   3   4   6   9   12   18   36

54 :   1   2   3   6   9   18   27   54

Common Factors

Greatest Common Factor

Q2- Write a program to find the sum of positive numbers using **DO WHILE LOOP**. Take positive numbers from the user as an input. If the user enters a negative number, the loop ends and that negative number entered should not be added to the sum. Finally the program should display the total sum. For example, if the user entered 12,5,3,-2 then the program should return 20.

Q3- Write a C++ program to generate the Fibonacci series for a given number of terms using **FOR LOOP.** The Fibonacci sequence is a series of numbers where each number is the sum of the two preceding ones, usually starting with 0 and 1. For example, the first 10 terms of the Fibonacci sequence are:
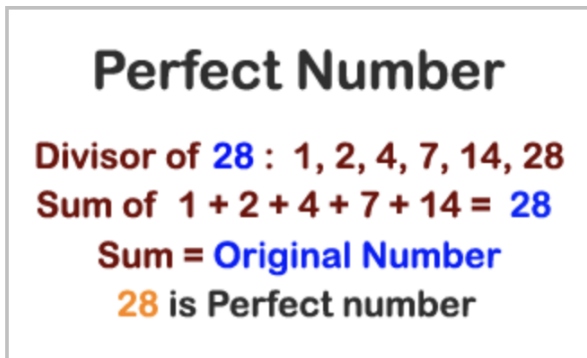
0, 1, 1, 2, 3, 5, 8, 13, 21, 34

Write a C++ program that takes an integer n as input and generates the first n terms of the Fibonacci sequence.

Q4- Write a program to convert a binary number to its decimal equivalent using **FOR LOOP**. The user will input a binary number as **INTEGER VARIABLE**, and your program should convert it to a decimal number. For example, if the user enters the binary number 1010, your program should output the decimal number 10.

Q5- Write a C++ program using **FOR LOOP** to check whether a given number is a 'Perfect' number or not?.

Pictorial Presentation:

Perfect Number

Divisor of **28** : **1, 2, 4, 7, 14, 28**
Sum of **1 + 2 + 4 + 7 + 14 = 28**
Sum = Original Number
28 is Perfect number

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Q6- Write a program in C to find the LCM of any two numbers.