Name: Deepak R Roll Number: 18TCS002041

Laboratory 1

1. Questions

    1. Write a program to input two integer numbers and display the sum of even numbers between these two input numbers.
    2. Write a program to find GCD (greatest common divisor or HCF) and LCM (least common multiple) of two numbers.
    3. Write a program to display Fibonacci series up to given limit.

2. Introduction

    In this laboratory we will get to know about how to find Gcd and Lcm in second program which is very important and basic program.and then to find fibbonacci series in third program and program to input two integer numbers and display the sum of even numbers between these two input numbers.By performing this programs we will get used to c programming.

    1)In first program a C program to input number from user and find sum of all even numbers between two numbers. How we find sum of even numbers in a given range using for loop in C programming and if condition. Logic to find sum of even numbers in a given range in C program I shown in Algorithm.

    2) In second program The program logic to calculate GCD or HCF is simple. for loop continue till the value of i is equal to a or y and if condition checks whether the remainder of a and b when divided by i is equal to 0 or not..In the same way by dividing a and b by gcd we get lcm.

    3) In third program to find fibbonaccu series We use a while loop and keep going till we generate first n terms.We store the second term inside the first term, the third term inside the second and add the first two terms.

3. Algorithm

a) Algorithm for program to input two integer numbers and display the sum of even numbers between these two input numbers.

1.start

2.input a and b value from user

3.calculations

For(i=(a+1);i<b;i++)

If (i%2)==0;

Sum=sum+i

4.print sum

5.stop

b) Algorithm for program to find GCD (greatest common divisor or HCF) and LCM (least common multiple) of two numbers.

1.start

2. input a and b value from user

3.calculations

For(i=1;i<a &&b%i==0)

If(a%i==0 && b%i==0)

Gcd=i

4.print Gcd

5.calculation to find Lcm

Lcm=(a*b)/gcd

6.print lcm

7.stop

c) Algorithm for program to display Fibonacci series up to given limit.

1.Start

2.Declare variables i, t1,t2,t3, n

3.Initialize the variables, t1=0, t2=1,

4.Enter the number of terms of Fibonacci series to be printed

5.Print First two terms of series

6.use loop for the following steps

t3=t1+t2

t1=t2

t2=t3

Increase the value of i each time by 1

7.print t1 in each step

8.stop

4. Program

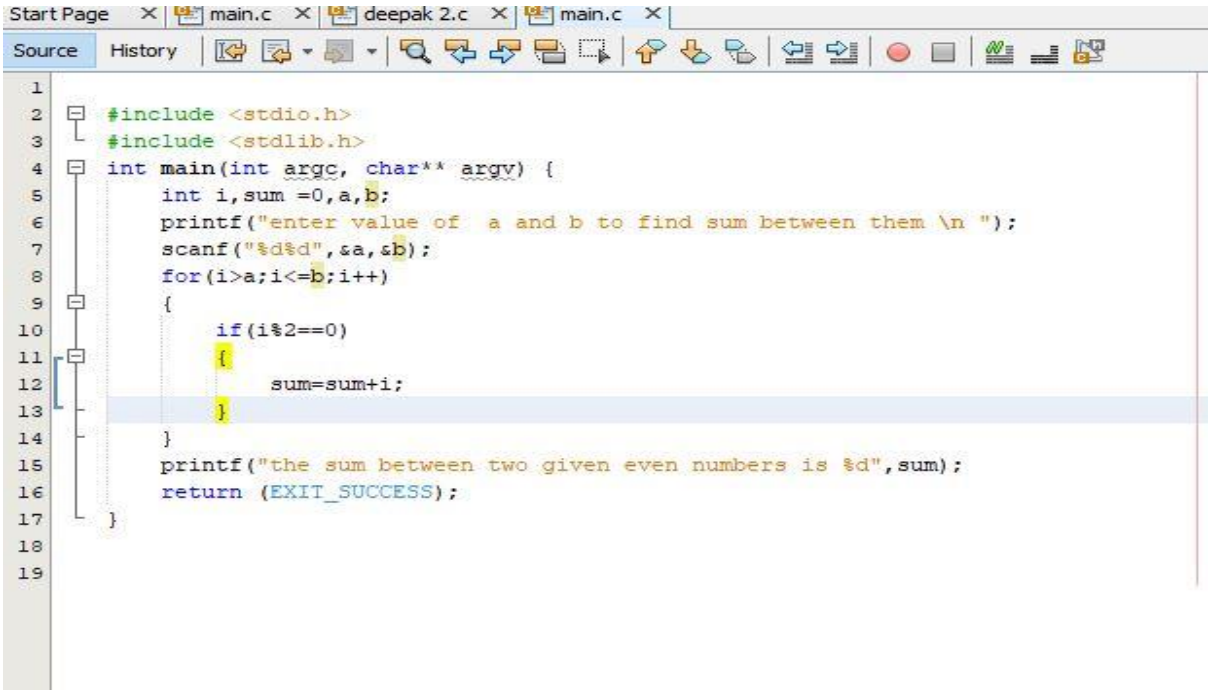

Fig 1 program to input two integer numbers and display the sum of even numbers between these two input numbers.

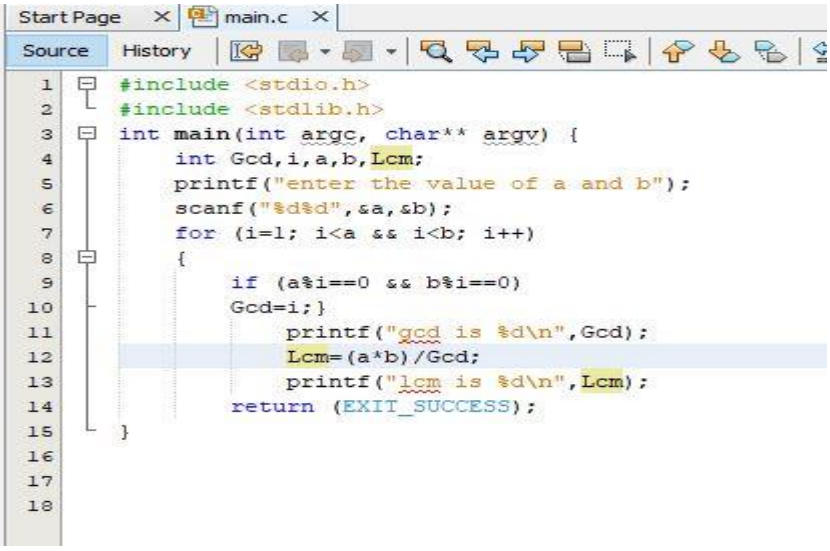

Fig 2 program to find GCD (greatest common divisor or HCF) and LCM (least common multiple) of two numbers.

```c
/*Sum of even numbers between two numbers*/
#include <stdio.h>
#include <stdlib.h>
int main(int argc, char** argv)
{
    int i, n, t1 = 0, t2 = 1, t3;
    printf("Enter the number of terms:\n");
    scanf("%d",&n);

    printf("Fibonacci Series : ");

    for (i = 1; i<=n; ++i)
    {
        printf("%d,", t1);
        t3 = t1 + t2;
        t1 = t2;
        t2 = t3;
    }

    return (EXIT_SUCCESS);
}
```

Fig 3 a program to display Fibonacci series up to given limit.

5. Presentation of Results

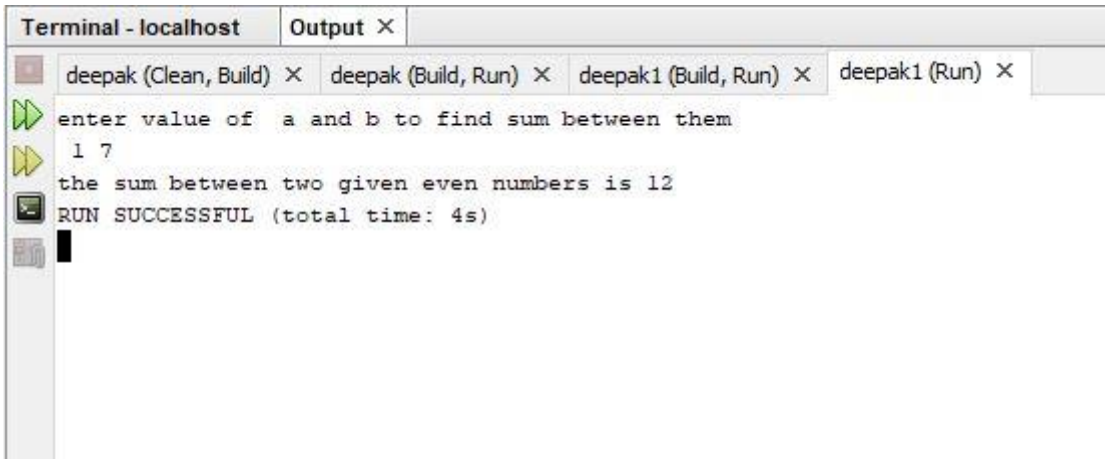

Fig4 result of program to input two integer numbers and display the sum of even numbers between these two input numbers.

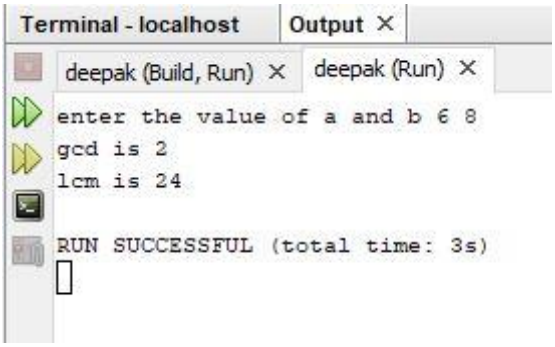

Fig 5 result of program to find GCD (greatest common divisor or HCF) and LCM (least common multiple) of two numbers.

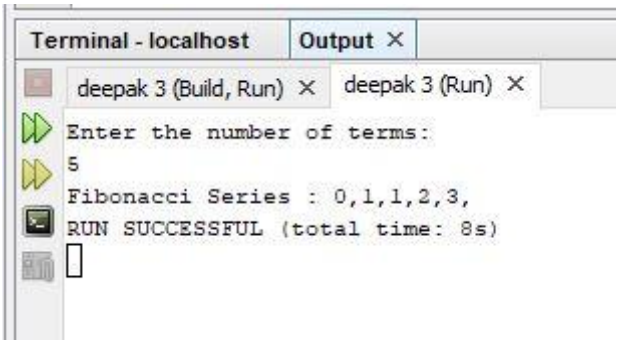

Fig 6 result to program to display Fibonacci series up to given limit.

6. Conclusions

This is the first code written in C program. The program is focused on the calculation of Lcm gcd of a given number and program to input two integer numbers and display the sum of even numbers between these two input numbers.and a program to display Fibonacci series up to given limit.From this lab, I understood the basic structure of C programming including the meaning of header files & steps of problem solving.