**EXPERIMENT NO- 2**

**AIM:** Write an assembly language program to find Fibonacci series of N terms

**Resource Required:** P-IV and above RAM 128MB, Dot Matrix Printer, Emu 8086, MASM

611/ TASM, Turbo C/C++, Printer, Printout Stationary.

**THEORY:**

The Fibonacci numbers are the numbers in the following integer sequence.

0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, ……..

In mathematical terms, the sequence Fn of Fibonacci numbers is defined by the recurrence

relation

Fn = Fn-1 + Fn-2

ALGORITHM:

Step I : Initialize the data segment

Step II : Initialize the counter =10 i.e 0A h

Step III : Initialize SI to starting address

Step IV : Store the 1st term at the location where SI is pointing

Step V : Increment SI to point next location

Step VI : Store next term 1 to location where SI is pointing

Step VII : Increment Si to point to next location

Step VIII : Next term =[SI-2]+[SI-1]

Step IX : Store the result to location pointed by SI

Step X : Increment SI

Step XI Decrement counter

Step XII Check if count=0,if nt the go to step VIII

Step XIII : Display the result.

Step XIV : Stop.

**CONCLUSION: We have successfully calculated Fibonacci sequence of desired ‘N’ numbers using assembly language programming.**

**Program:**

**Data segment**

**count dw 000Ch**

**array db count DUP(?)**

**Data ends**

**Code segment**

**assume cs:Code ds: Data**

**Start:**

**mov ax,Data**

**mov ds,ax**

**mov cx,count**

**lea si,array**

**mov al,00h**

**mov [si],al**

**inc si**

**dec cx**

**mov bl,01h**

**mov [si],bl**

**inc si**

**dec cx**

**up:**

**mov al,[si-1]**

**mov bl,[si-2]**

**add al,bl**

**mov [si],al**

**inc si**

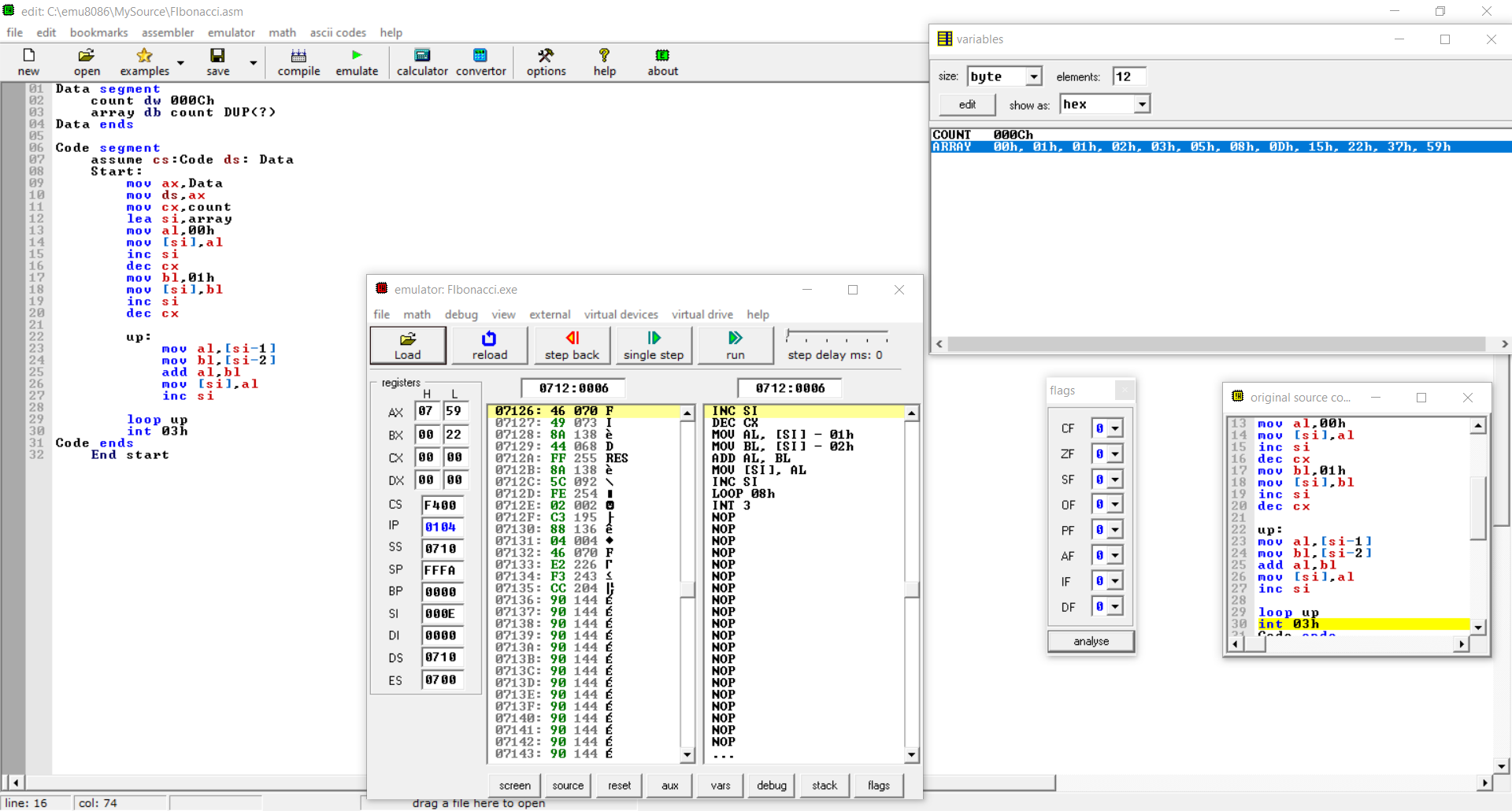
**loop up**

**int 03h**

**Code ends**

**End start**

**Output:**

****