

LAB EXPERIMENT #4

Objective(s)

- Become familiar with using arrays, memory copy and arithmetic operations in 8086 emulator software.

Lab Work

Generate an ARRAY that consists of N 8-bit numbers (programmer can assign N). The following function (F_n) produces the elements of the ARRAY where $n = 1, 2, \dots, N$.

$$F_n = \begin{cases} 0 & \text{if } n = 1 \\ 1 & \text{if } n = 2 \\ F_{n-1} - F_{n-2} & \text{if } n > 2 \text{ and } n \text{ is odd} \\ F_{n-1} + F_{n-2} & \text{if } n > 2 \text{ and } n \text{ is even} \end{cases}$$

where, N is an integer number greater than 14 and lower than 26 ($14 < N < 26$). Otherwise, the following error message is displayed: "Please enter a value between 14 and 26".

EXAMPLE:

For $N=10$:

Index of Array	n	Function F_n value
0	1	0
1	2	1
2	3	1
3	4	2
4	5	1
5	6	3
6	7	2
7	8	5
8	9	3
9	10	8

Hint: You can use the following code block to display the error message.

```
LEA SI, MESSAGE
MOV CX, 38
MOV AH, 0Eh
GO:  LODSB
     INT 10h
     LOOP GO
....
MESSAGE DB 'Please enter a value between 14 and 26', 0
```

Evaluation:

You must complete your work until lab hour. You will be evaluated in the lab session.