

ADDITION OF N NUMBERS

EXP NO: 14

AIM: To compute addition of N numbers using 8085 processor.

ALGORITHM:

- 1) Load the base address of the array in HL register pair.**
- 2) Load the memory with data to be added.**
- 3) Take it as count.**
- 4) Initialize the accumulator with 00.**
- 5) Add content of accumulator with content of memory.**
- 6) Decrement count.**
- 7) Load count value to memory location.**
- 8) Repeat step 5.**
- 9) Check whether count has become 0.**
- 10) Halt.**

PROGRAM:

LXI H,8000

MOV C,M

XRA A

MOV B,A

LOOP: INX H

ADD M

JNC SKIP

INR B

SKIP: DCR C

JNZ LOOP

```

INX H

MOV M,A

INX H

MOV M,B

HLT

```

INPUT :

The screenshot shows a software window with tabs for Data, Stack, KeyPad, Memory, and I/O Ports. The Memory tab is active. At the top, there is a 'Start' field containing '8000' and an 'OK' button. Below this is a table with three columns: 'Address (Hex)', 'Address', and 'Data'. The table contains 12 rows of memory data. At the bottom of the window, there is a section for assembly messages with two columns: 'Line No' and 'Assembler Message'.

Address (Hex)	Address	Data
1F40	8000	10
1F41	8001	0
1F42	8002	0
1F43	8003	0
1F44	8004	0
1F45	8005	0
1F46	8006	0
1F47	8007	55
1F48	8008	0
1F49	8009	0
1F4A	8010	0
1F4B	8011	0

Line No	Assembler Message
0	Program assembled successfully

OUTPUT:

GUI8085 - 8085 Microprocessor Simulator

File Reset Assembler Debug Help

Registers

Register	Value	Flag	Value
A	37	S	0
BC	00 00	Z	1
DE	00 00	AC	0
HL	1F 48	P	1
PSW	00 00	C	0
PC	42 18		
SP	FF FF		
Int-Reg	00		

Decimal - Hex Conversion

Decimal: 0 Hex: 0

To Hex To Dec

I/O Ports

0 - + 00

Update Port Value

Memory

0 - + 00

Update Memory

Load me at

```

1
2 ;<Program title>
3
4 jmp start
5
6 ;data
7
8
9
10 ;code
11 start: nop
12 LXI H, 8000
13 MOV C, M
14 MVI A, 00
15 LOOP: ADD C
16 JNC SKIP
17 INR B
18 SKIP: DCR C
19 JNZ LOOP
20 LXI H, 8007
21 MOV M, A
22 INX H
23 MOV M, B
24
25
26 hlt

```

Start 8000 OK

Address (Hex)	Address	Data
1F40	8000	10
1F41	8001	0
1F42	8002	0
1F43	8003	0
1F44	8004	0
1F45	8005	0
1F46	8006	0
1F47	8007	55
1F48	8008	0
1F49	8009	0
1F4A	8010	0
1F4B	8011	0

Line No Assembler Message

0 Program assembled successfully

RESULT: Thus the program was executed successfully using 8085 processor simulator.