

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 & OUTPUT

Start	8000	OK
Address (Hex)	Address	Data
1F40	8000	0
1F41	8001	32
1F42	8002	23
1F43	8003	14
1F44	8004	0
1F45	8005	0
1F46	8006	0
1F47	8007	0
1F48	8008	0
1F49	8009	69
1F4A	8010	0
1F4B	8011	0

GNUsim8085 - 8085 Microprocessor Simulator

File Reset Assembler Debug Help

Registers

Register	Value	Flag
A	8A	S 0
BC	00 00	Z 1
DE	00 00	AC 0
HL	20 42	P 1
PSW	00 00	C 0
PC	42 15	
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 LXI H,8000
2 MOV C,M
3 XRA A
4 MOV B,A
5 LOOP: INX H
6 ADD M
7 JNC SKIP
8 INR B
9 SKIP: DCR C
10 JNZ LOOP
11 INX H
12 MOV M,A
13 INX H
14 MOV M,B
15 HLT
16

```

Start 8000 OK

Address (Hex)	Address	Data
1F40	8000	0
1F41	8001	32
1F42	8002	23
1F43	8003	14
1F44	8004	0
1F45	8005	0
1F46	8006	0
1F47	8007	0
1F48	8008	0
1F49	8009	69
1F4A	8010	0
1F4B	8011	0

Line No Assembler Message

0 Program assembled successfully

Simulator: Idle

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