

**EXP NO: 2**

### **8-BIT SUBTRACTION**

**AIM:** To write an assembly language program to implement 8-bit subtraction using 8085 processor.

**ALGORITHM:**

- 1) Start the program by loading the first data into the accumulator.
- 2) Move the data to a register.
- 3) Get the second data and load it into the accumulator.
- 4) Subtract the two register contents.
- 5) Check for borrow.
- 6) Store the difference and borrow in the memory location.
- 7) Halt.

**PROGRAM:**

LDA 8000

MOV B, A

LDA 8001

SUB B

STA 8002

RST 1

## INPUT:

Data

Stack

KeyPad

Memory

I/O Ports

Start 8000 

OK

Address (Hex)	Address	Data
1F40	8000	45
1F41	8001	81
1F42	8002	36
1F43	8003	0
1F44	8004	0
1F45	8005	0
1F46	8006	0
1F47	8007	0
1F48	8008	0
1F49	8009	0
1F4A	8010	0
1F4B	8011	0
1F4C	8012	0
1F4D	8013	0
1F4E	8014	0

Line No

Assembler Message

0 Program assembled successfully

## OUTPUT:

GNUSim8085 - 8085 Microprocessor Simulator

File

Reset

Assembler

Debug

Help

Registers

Flag

Load me at

1 LDA 8000

2 MOV B, A

3 LDA 8001

4 SUB B

5 STA 8002

6 RST 1

7

Decimal - Hex Conversion

Decimal

Hex

0

0

To Hex

To Dec

I/O Ports

0

-

+

00

Update Port Value

Memory

0

-

+

00

Update Memory

Data

Stack

KeyPad

Memory

I/O Ports

Start 8000 

OK

Address (Hex)	Address	Data
1F40	8000	45
1F41	8001	81
1F42	8002	36
1F43	8003	0
1F44	8004	0
1F45	8005	0
1F46	8006	0
1F47	8007	0
1F48	8008	0
1F49	8009	0
1F4A	8010	0
1F4B	8011	0
1F4C	8012	0
1F4D	8013	0
1F4E	8014	0

Line No

Assembler Message

0 Program assembled successfully

Simulator: Idle

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