**8-BIT SUBTRACTION**

**EXP NO: 2**

**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.

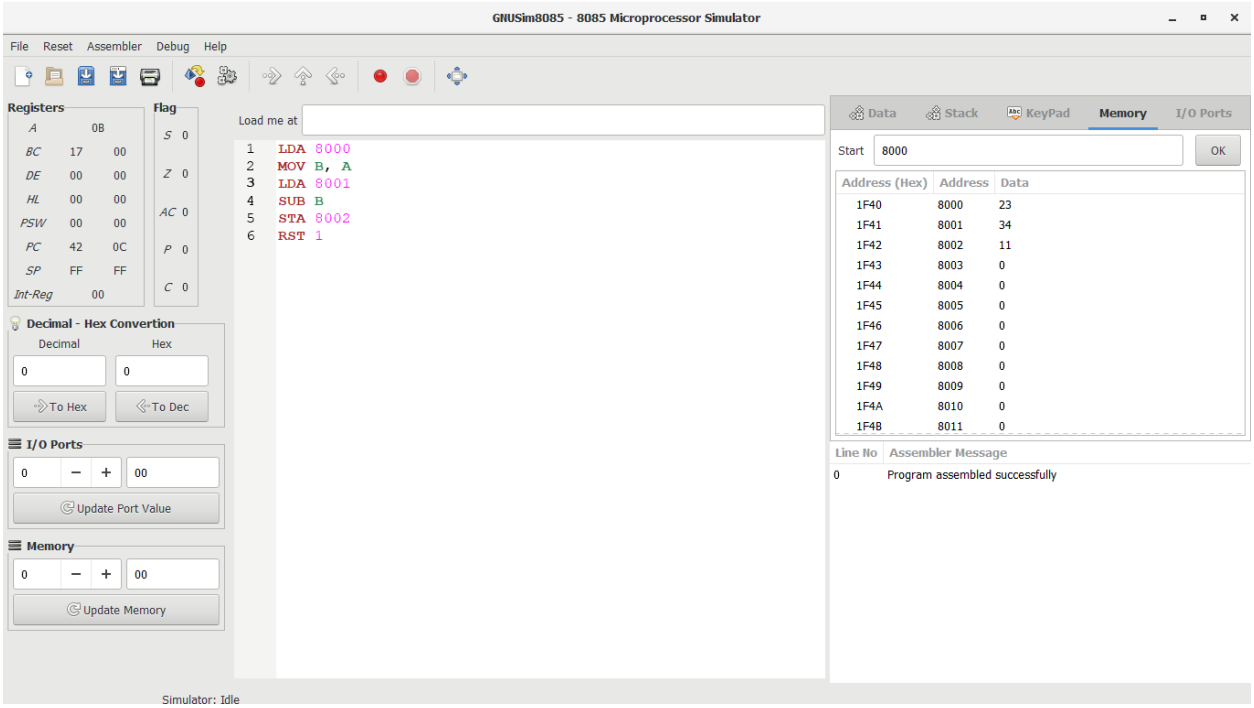
**PROGRAM:**

```
LDA 8000
MOV B, A
LDA 8001
SUB B
STA 8002
RST 1
```

**INPUT & OUTPUT:**

Start 8000 OK

| Address (Hex) | Address | Data |
|---|---|---|
| 1F40 | 8000 | 23 |
| 1F41 | 8001 | 34 |
| 1F42 | 8002 | 11 |
| 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 |


GNUSim8085 - 8085 Microprocessor Simulator
File
Reset
Assembler
Debug
Help
Registers
A 0B
BC 17 00
DE 00 00
HL 00 00
PSW 00 00
PC 42 0C
SP FF FF
Int-Reg 00
Flag
S 0
Z 0
AC 0
P 0
C 0
Decimal - Hex Convertion
Decimal
Hex
0
0
To Hex
To Dec
I/O Ports
0
00
Update Port Value
Memory
0
00
Update Memory
Load me at
1 LDA 8000
2 MOV B, A
3 LDA 8001
4 SUB B
5 STA 8002
6 RST 1
Data
Stack
KeyPad
Memory
I/O Ports
Start
8000
OK
Address (Hex)
Address
Data
1F40 8000 23
1F41 8001 34
1F42 8002 11
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
Line No
Assembler Message
0
Program assembled successfully
Simulator: Idle

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