

EXP NO: 3

8-BIT MULTIPLICATION

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

ALGORITHM:

- 1) Start the program by loading a register pair with the address of memory location.
- 2) Move the data to a register.
- 3) Get the second data and load it into the accumulator.
- 4) Add the two register contents.
- 5) Increment the value of the carry.
- 6) Check whether the repeated addition is over.
- 7) Store the value of product and the carry in the memory location.
- 8) Halt.

PROGRAM:

```
LDA 8500  
  
MOV B, A  
  
LDA 8001  
  
MOV C, A  
  
CPI 00  
  
JZ LOOP  
  
XRA A  
  
LOOP1: ADD E  
  
DCR C  
  
JZ LOOP  
  
JMP LOOP1  
  
LOOP: STA 8002
```

RST 1

INPUT:

Data

Stack

KeyPad

Memory

I/O Ports

Start

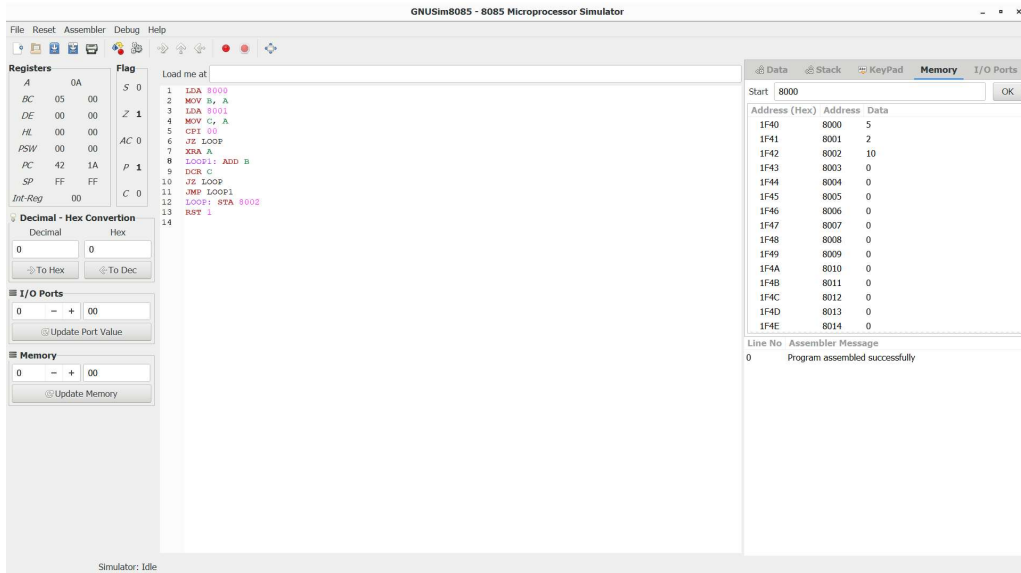
Address (Hex)	Address	Data
1F40	8000	5
1F41	8001	2
1F42	8002	10
1F43	8003	0
1F44	8004	0
1F45	8005	0
1F46	8006	0
1F47	8007	0
1F48	8008	0
1F49	8009	0
1F4A	8010	0
1F4B	8011	0
1F4C	8012	0
1F4D	8013	0
1F4E	8014	0

Line No

Assembler Message

0 Program assembled successfully

OUTPUT:



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