LabSheet1
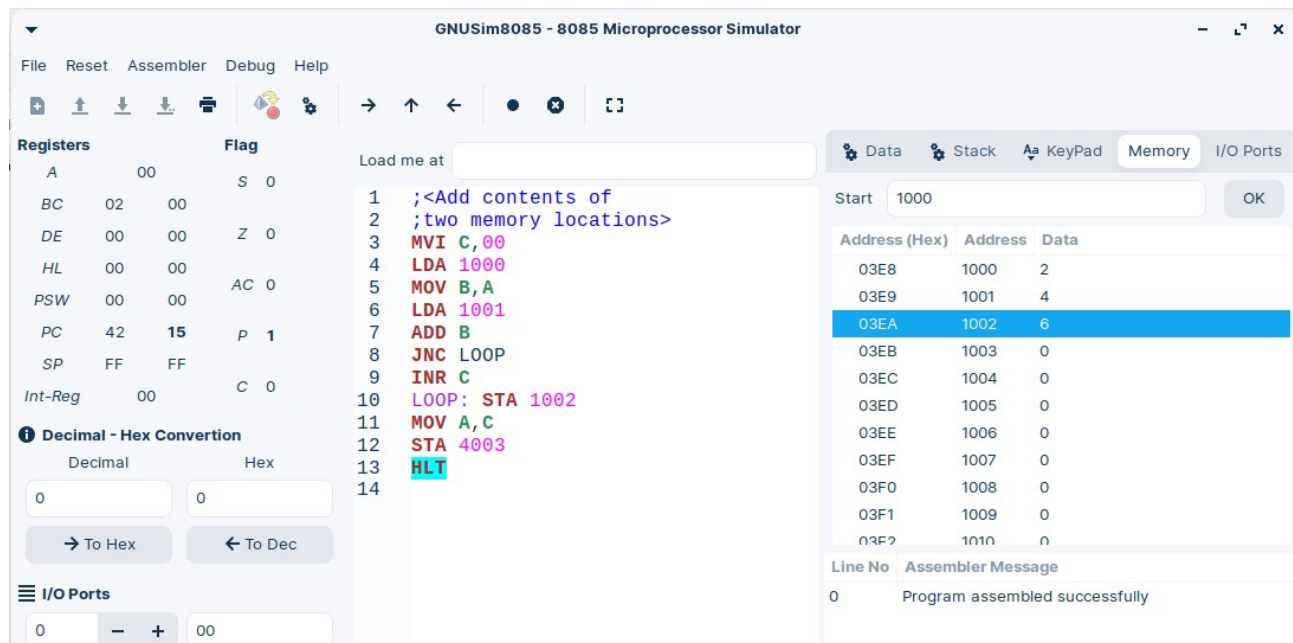
Prepared By : Jins George
Roll No: AA.SC.P2MCA2207155

Task 1: Write a program to add contents of two memory locations.

Program

;<Add contents of two memory locations>
MVI C,00
LDA 1000
MOV B,A
LDA 1001
ADD B
JNC LOOP
INR C
LOOP: STA 1002
MOV A,C
STA 4003
HLT

Task 2: Write a program to arrange an array of data in ascending order.

Program

;<Arrange array Ascending>

LXI H,2000   ; size of array
MOV C,M
DCR C
REPEAT: MOV D,C
LXI H,2001
LOOP: MOV A,M
INX H
CMP M
JC SKIP
MOV B,M
MOV M,A
DCX H
MOV M,B
INX H
SKIP: DCR D
JNZ LOOP
DCR C
JNZ REPEAT
HLT

Before Screen

After Screen

Task 3: To find the largest number in an array of data using 8085

Program
;<Find largest number in array>
LXI H,4200 ;size
MOV B,M
INX H
MOV A,M
DCR B
LOOP: INX H
CMP M
JNC AHEAD
MOV A,M
AHEAD: DCR B
JNZ LOOP
STA 4208
HLT

Screen
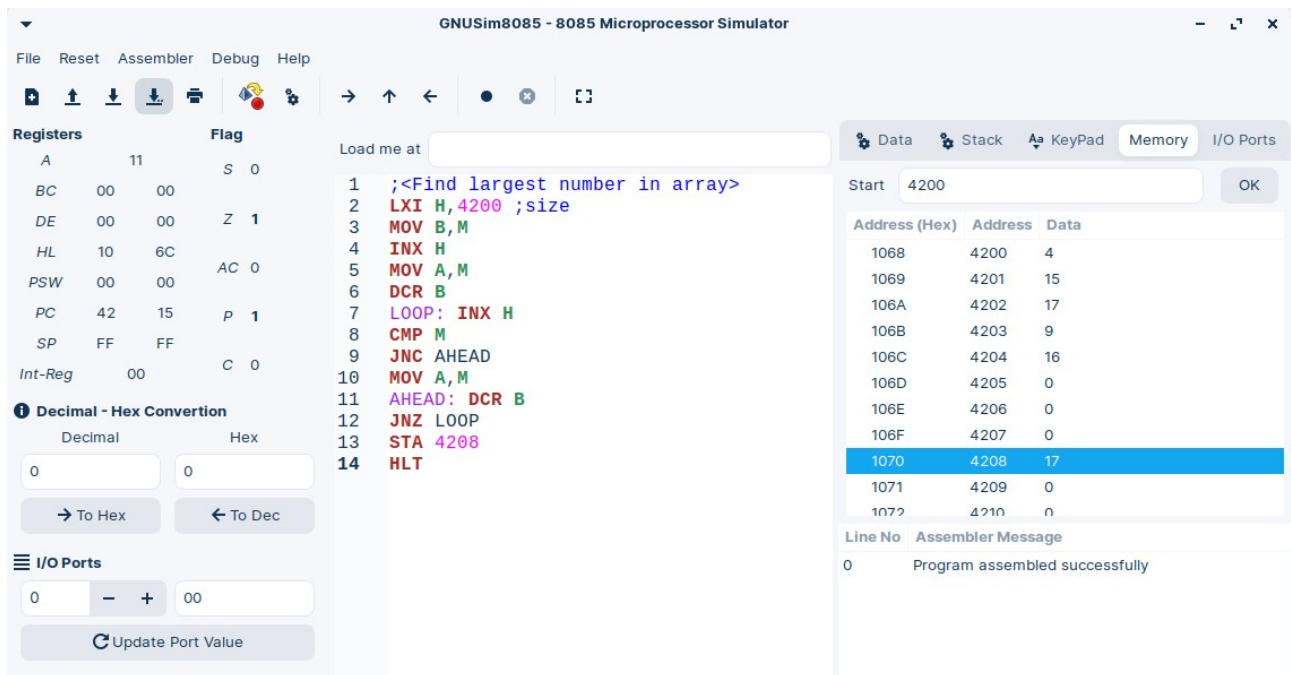
Task 4: Write a program to perform the multiplication of two 8-bit numbers using 8085.
Program

MVI D, 00
MVI A, 00
LXI H, 4000
MOV B, M
INX H
MOV C, M
LOOP: ADD B
JNC NEXT
INR D
NEXT: DCR C
JNZ LOOP
STA 4002
MOV A, D
STA 4003
HLT

Screen
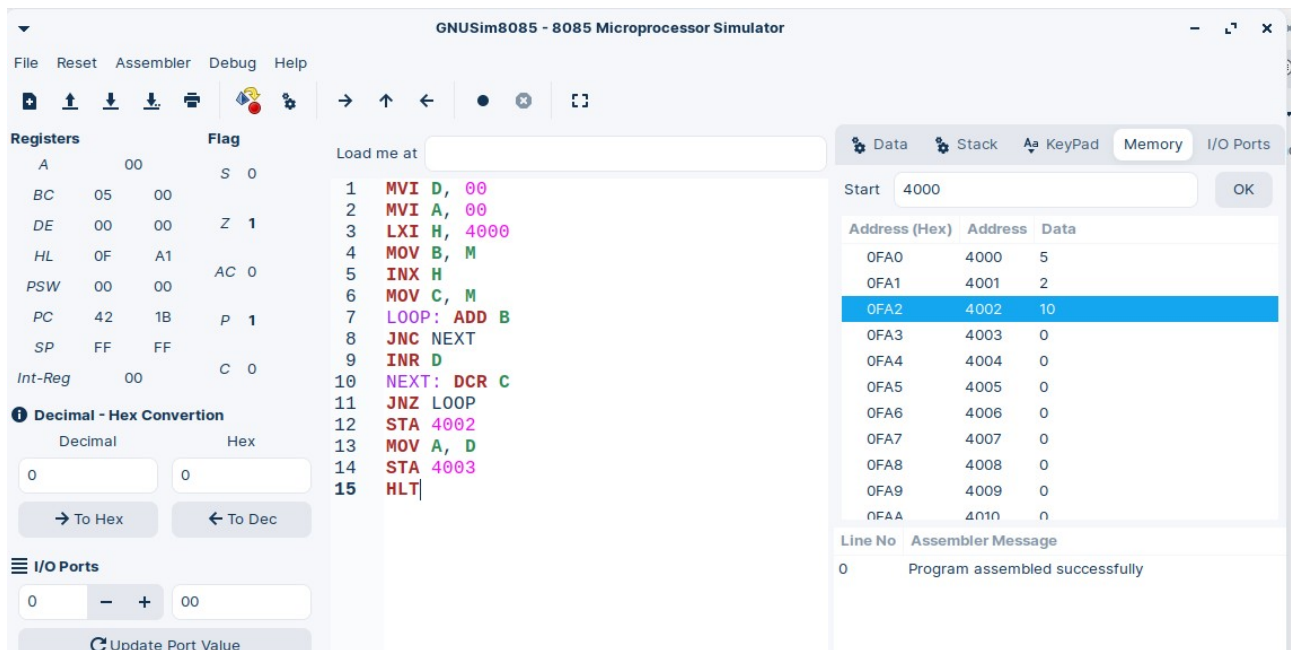
Task 5: Program to find the smallest number in an array of data in 8085 microprocessors.

LXI H,5000
MOV B,M
INX H
MOV A,M
DCR B
LOOP: INX H
CMP M
JC AHEAD
MOV A,M
AHEAD: DCR B
JNZ LOOP
STA 5009
HLT

Screen
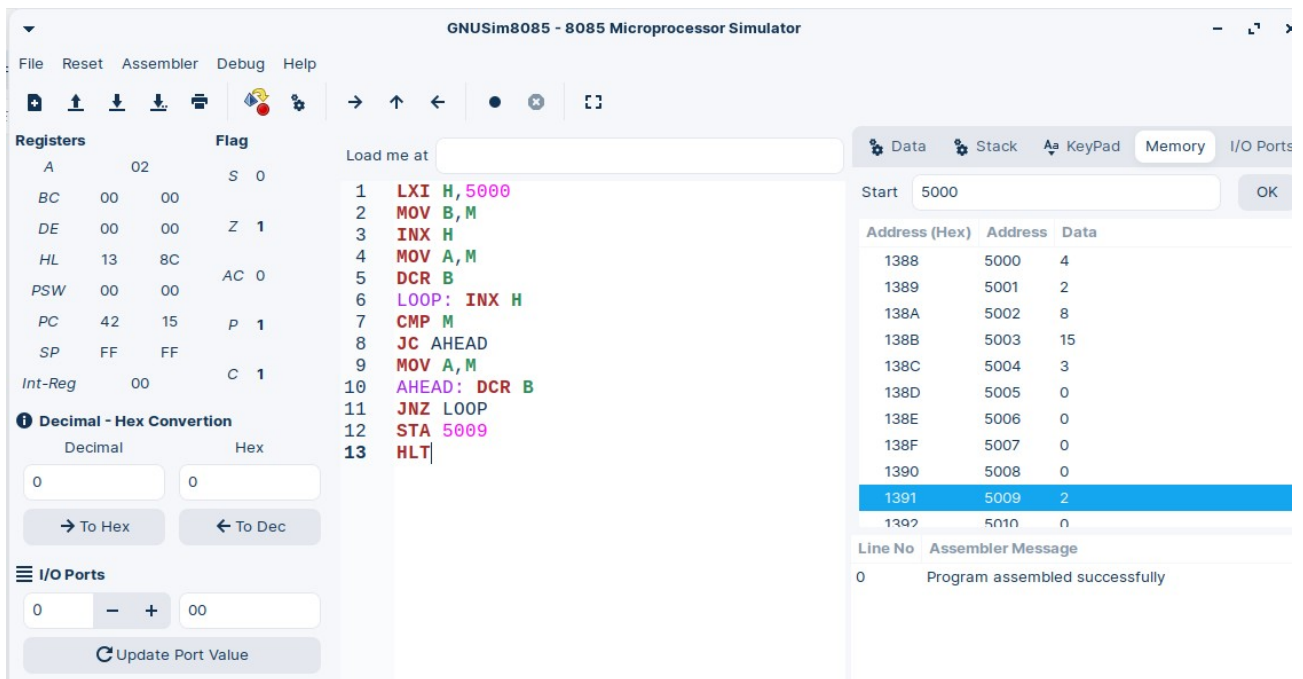
1

Task 6: Write a program in 8085 microprocessors to find factorial of number.

Program

LXI H,2501
MOV B,M
MVI A,00
MOV D,B
DCR B
START: JZ CNT
MOV E,B
MUL: ADD D
DCR E
JNZ MUL
MOV D,A
MVI A,00
DCR B
JMP START
CNT: MOV A,D
STA 2502
HLT

Screen

GNUSim8085 - 8085 Microprocessor Simulator   — ↗ ✕

File   Reset   Assembler   Debug   Help

📄 ⬆ ⬇ ⬇ 🖨   🎨 ⚙   → ↑ ←   ● ⊗   [ ]

Registers   **Flag**

A	18	S 0
BC	00 00	
DE	18 00	Z 1
HL	09 C5	
PSW	00 00	AC 0
PC	42 1D	P 1
SP	FF FF	
Int-Reg	00	C 0

ℹ **Decimal - Hex Convertion**

Decimal   Hex

→ To Hex   ← To Dec

☰ **I/O Ports**

0   —   +   00

⟳ Update Port Value

Load me at [ ]

```
 1  LXI H,2501
 2  MOV B,M
 3  MVI A,00
 4  MOV D,B
 5  DCR B
 6  START: JZ  CNT
 7  MOV E,B
 8  MUL: ADD D
 9  DCR E
10  JNZ MUL
11  MOV D,A
12  MVI A,00
13  DCR B
14  JMP START
15  CNT: MOV A,D
16  STA 2502
17  HLT
18  |
```

🔧 Data   🔧 Stack   Aa KeyPad   Memory   I/O Ports

Start   2501   OK

Address (Hex)	Address	Data
09C5	2501	4
09C6	2502	24
09C7	2503	0
09C8	2504	0
09C9	2505	0
09CA	2506	0
09CB	2507	0
09CC	2508	0
09CD	2509	0
09CE	2510	0
09CF	2511	0

Line No	Assembler Message
0	Program assembled successfully