**SMALLEST
NUMBER IN AN ARRAY**

EXP NO: 11

AIM:
To find the smallest number from an array
using 8085 processor.

ALGORITHM:

1)   Load the address of the first element of the array in HL
pair.

2)   Move the count to B register.

3)   Increment the pointer.

4)   Get the first data in A register.

5)   Decrement the count.

6)   Increment the pointer.

7) Compare the content of memory addressed by HL pair with that of A register.

8) If carry=1, go to step 10 or if carry=0 go to step 9

9) Move the content of memory addressed by HL to A register.

10) Decrement the count.

PROGRAM:

LXI H,2050

MOV C,M

DCR C

INX H

MOV A,M

LOOP1: INX H

CMP M

JC LOOP
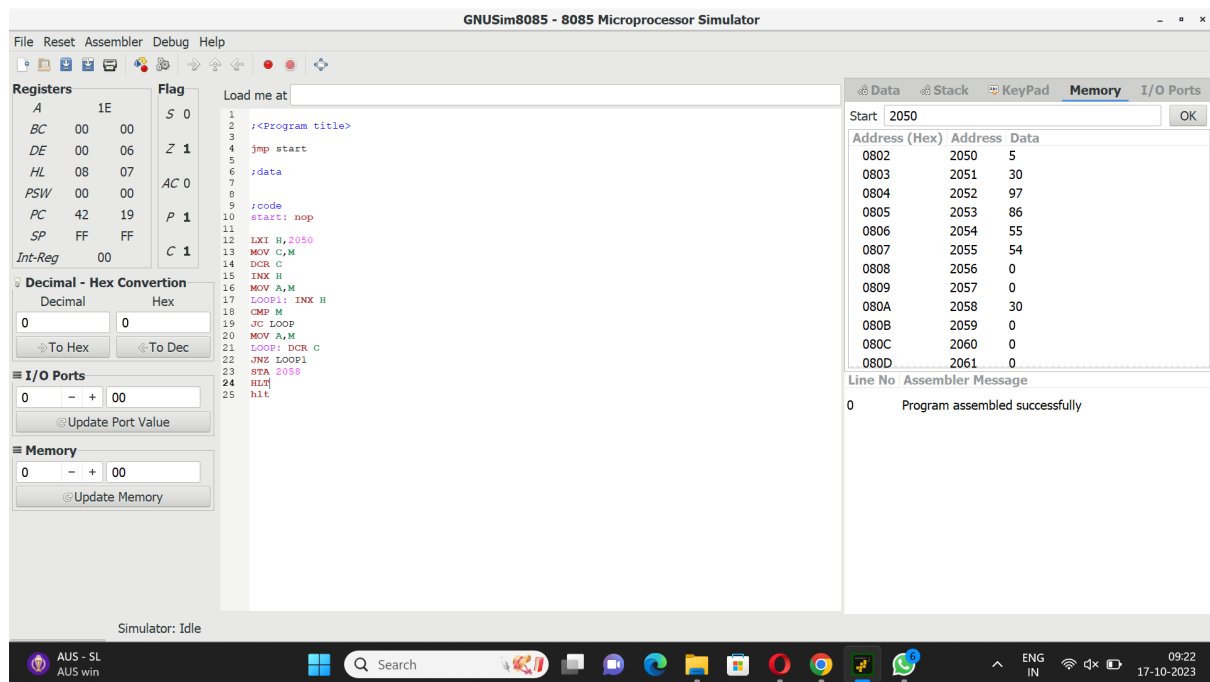
MOV A,M

LOOP: DCR C

JNZ LOOP1

STA 2058

HLT

INPUT:

Address (Hex)	Address	Data
0802	2050	5
0803	2051	30
0804	2052	97
0805	2053	86
0806	2054	55
0807	2055	54

OUTPUT:

GNUSim8085 - 8085 Microprocessor Simulator

File Reset Assembler Debug Help

Registers

A	1E	
BC	00	00
DE	00	06
HL	08	07
PSW	00	00
PC	42	19
SP	FF	FF
Int-Reg		00

Flag

S 0
Z 1
AC 0
P 1
C 1

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
2   ;<Program title>
3
4   jmp start
5
6   ;data
7
8
9   ;code
10  start: nop
11
12  LXI H,2050
13  MOV C,M
14  DCR C
15  INX H
16  MOV A,M
17  LOOP1: INX H
18  CMP M
19  JC LOOP
20  MOV A,M
21  LOOP: DCR C
22  JNZ LOOP1
23  STA 2050
24  HLT
25  hlt
```

Data   Stack   KeyPad   **Memory**   I/O Ports

Start 2050   OK

Address (Hex)	Address	Data
0802	2050	5
0803	2051	30
0804	2052	97
0805	2053	86
0806	2054	55
0807	2055	54
0808	2056	0
0809	2057	0
080A	2058	30
080B	2059	0
080C	2060	0
080D	2061	0

Line No	Assembler Message
0	Program assembled successfully

Simulator: Idle

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