

## **LARGEST NUMBER IN AN ARRAY**

**EXP NO: 10**

**AIM:** To find the largest 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=0, go to step 10 or if carry=1 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
JNC LOOP
MOV A,M
LOOP: DCR C
```

JNZ LOOP1  
STA 2058  
HLT

## INPUT:

2050-6

2051-9

## OUTPUT:

The screenshot displays the GNUSim8085 - 8085 Microprocessor Simulator interface. The main window is titled "GNUSim8085 - 8085 Microprocessor Simulator" and features a menu bar (File, Reset, Assembler, Debug, Help) and a toolbar. The central area shows the assembly code being executed:

```
1 LXI H, 2050
2 MOV C, M
3 DCR C
4 INX H
5 MOV A, M
6 LOOP1: INX H
7 CND M
8 JNC LOOP
9 MOV A, M
10 LOOP: DCR C
11 JNZ LOOP1
12 STA 2058
13 HLT
```

On the left, the "Registers" panel shows the current state of the 8085 registers:

Register	Value
A	09
BC	00 00
DE	00 00
HL	08 08
PSW	00 00
PC	42 15
SP	FF FF
Int-Reg	00

Below the registers, there are sections for "Decimal - Hex Conversion", "I/O Ports", and "Memory", each with input fields and conversion buttons.

On the right, the "Memory" panel shows the memory dump starting at address 2050:

Address (Hex)	Address	Data
0802	2050	6
0803	2051	9
0804	2052	0
0805	2053	0
0806	2054	0
0807	2055	0
0808	2056	0
0809	2057	0
080A	2058	9
080B	2059	0
080C	2060	0
080D	2061	0
080E	2062	0
080F	2063	0

At the bottom right, the "Assembler Message" panel shows the status:

```
Line No Assembler Message
0 Program assembled successfully
```

**RESULT:** Thus the program was executed successfully using 8086 processor simulator.