

## **LARGEST NUMBER IN AN ARRAY**

### **EXP-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:**

Address (Hex)	Address	Data
0802	2050	2
0803	2051	9
0804	2052	4
0805	2053	5
0806	2054	6
0807	2055	0
0808	2056	0
0809	2057	0
080A	2058	9
080B	2059	0
080C	2060	0
080D	2061	0

Line No	Assembler Message
0	Program assembled successfully

**OUTPUT:**

49.5 KB
Code 55% faster with GitHub Copilot

BC	00	00	
DE	00	00	Z 1
HL	08	04	AC 0
PSW	00	00	
PC	42	15	P 1
SP	FF	FF	C 0
Int-Reg	00		

### Decimal - Hex Conversion

Decimal: 0
Hex: 0

To Hex
To Dec

### I/O Ports

0
00

Update Port Value

### Memory

2050
02

Update Memory

```

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

```

Start: 2050
OK

Address (Hex)	Address	Data
0802	2050	2
0803	2051	9
0804	2052	4
0805	2053	5
0806	2054	6
0807	2055	0
0808	2056	0
0809	2057	0
080A	2058	9
080B	2059	0
080C	2060	0
080D	2061	0

### Assembler Message

Line No	Assembler Message
0	Program assembled successfully

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