

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 & OUTPUT

The screenshot displays the GNUSim8085 - 8085 Microprocessor Simulator interface. The main window shows the assembly code being executed. The Registers window on the left shows the state of the 8085 registers: A=08, BC=00, DE=00, HL=08, PSW=00, PC=42, SP=FF. The Memory window on the right shows the array data stored in memory addresses 2050 to 205F. The Assembler Message window at the bottom right shows the message 'Program assembled successfully'.

Address (Hex)	Address	Data
0802	2050	10
0803	2051	20
0804	2052	30
0805	2053	40
0806	2054	50
0807	2055	60
0808	2056	0
0809	2057	0
080A	2058	60
080B	2059	0
080C	2060	0
080D	2061	0
080E	2062	0
080F	2063	0

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