

## **DESCENDING ORDER**

**EXP NO: 13**

### **AIM:**

To compute descending order of an array using 8085 processor.

### **ALGORITHM:**

- 1) Initialize HL pair as memory pointer.
- 2) Get the count at memory and load it into C register
- 3) Copy it in D register (for bubble sort (N-1)) times required).
- 4) Get the first value in A register.
- 5) Compare it with the value at next location.
- 6) If they are out of order, exchange the contents of A register and memory.
- 7) Decrement D register content by 1

8) Repeat step 5 and 7 till the value in D register become zero.

9) Decrement the C register content by 1.

10) Repeat steps 3 to 9 till the value in C register becomes zero.

**PROGRAM:**

LOOP: LXI H,3500

MVI D,00

MVI C,05

LOOP1: MOV A,M

INX H

CMP M

JNC LOOP2

MOV B,M

MOV M,A

DCX H

MOV M,B

INX H

MVI D,01

LOOP2: DCR C

JNZ LOOP1

MOV A,D

RRC

JC LOOP

HLT

**INPUT:**

Address (Hex)	Address	Data
0DAC	3500	5
0DAD	3501	45
0DAE	3502	55
0DAF	3503	77
0DB0	3504	98
0DB1	3505	99
0DB2	3506	0
0DB3	3507	0
0DB4	3508	0
0DB5	3509	0
0DB6	3510	0
0DB7	3511	0

OUTPUT:

The screenshot displays the GNUSim8085 - 8085 Microprocessor Simulator interface. The main window shows assembly code being loaded at address 3500. The code includes a program title, a jump to start, data definitions, and a loop structure. The registers section shows the current state of the 8085 registers, including A, BC, DE, HL, PSW, PC, SP, and Int-Reg. The memory section shows the current memory address and its value. The I/O Ports section shows the current port value. The bottom status bar indicates the simulator is idle.

Line No	Assembler Message
0	Program assembled successfully

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