

Experiment - VII

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1 Aim:

Write an 8085 assembly language program to arrange 10 data bytes stored from memory location C500H onwards in descending order.

2 Code

```
# ORG C500H
# DB FE, FF, 02, 08, 06, 05, 0A, 0B, 04, 07
# ORG C000H
    MVI D,09H
LOOP1:  MOV C,D
        LXI H,C500H

LOOP2:  MOV A,M
        INX H
        CMP M
        JNC SKIP
        MOV B,M
        MOV M,A
        DCX H
        MOV M,B
        INX H

SKIP:   DCR C
        JNZ LOOP2
        DCR D
        JNZ LOOP1
HLT
```

3 Observations:

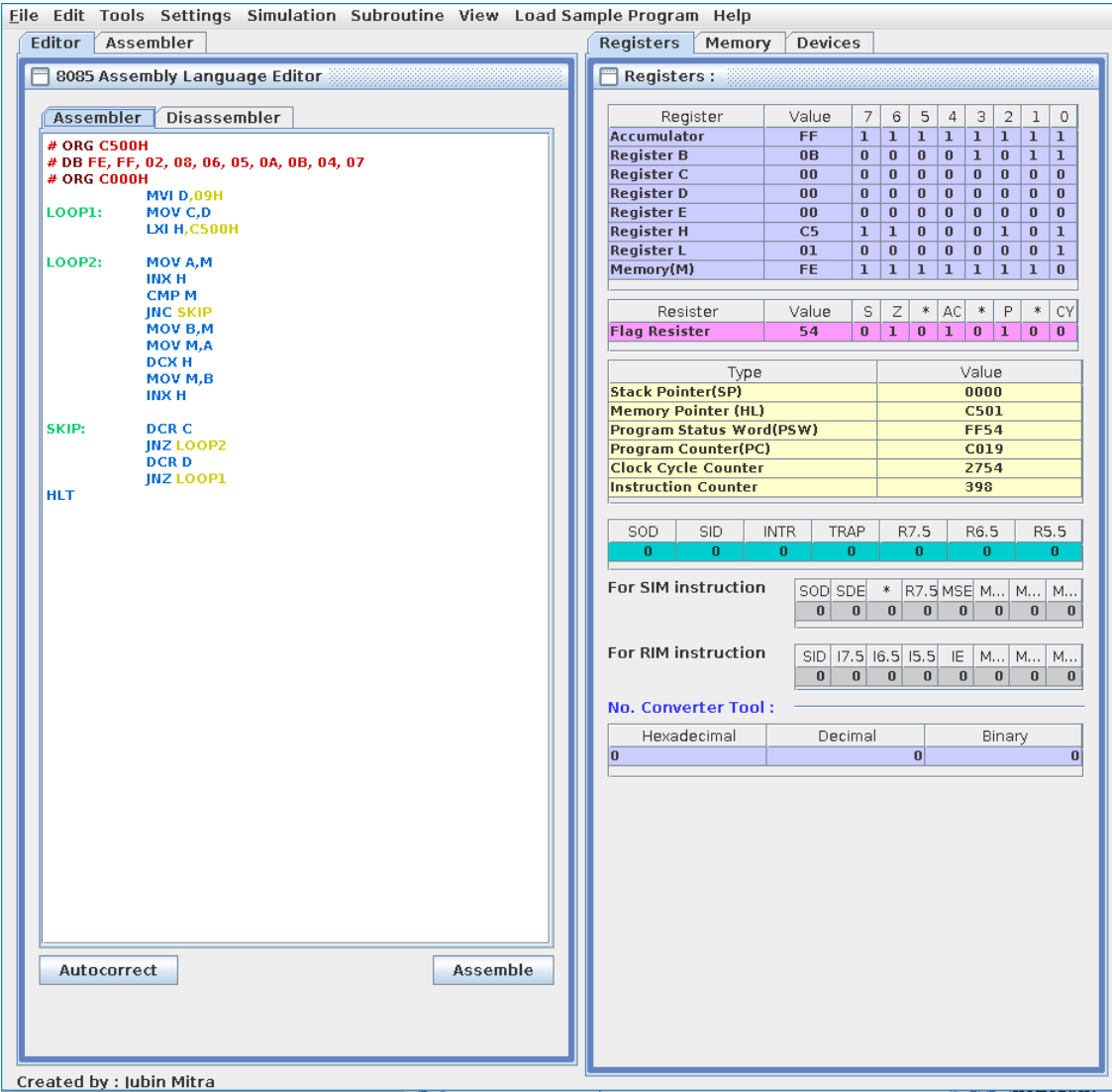


Figure 1: (a) Descending bubble sort

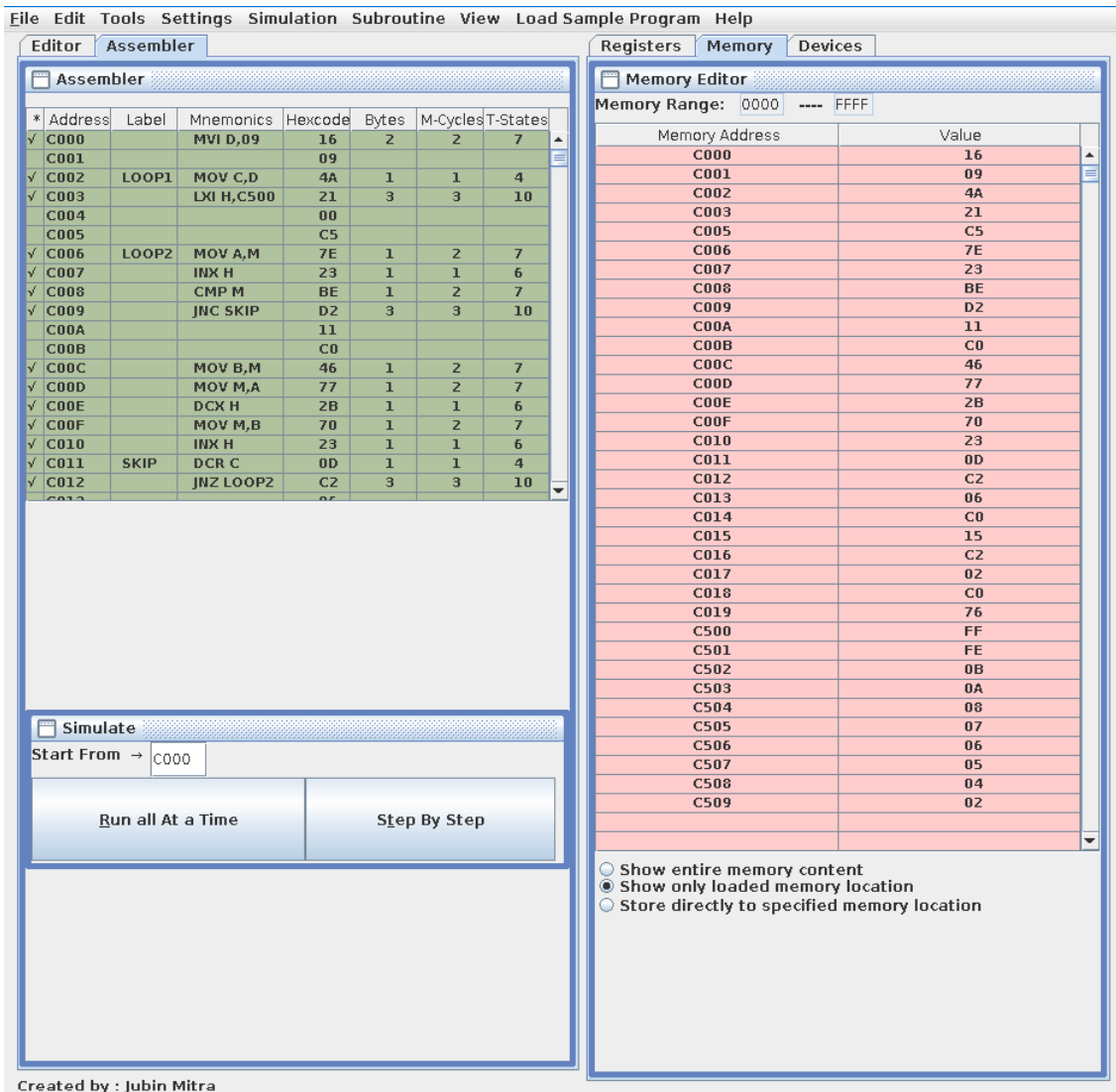


Figure 2: (b) Descending bubble sort

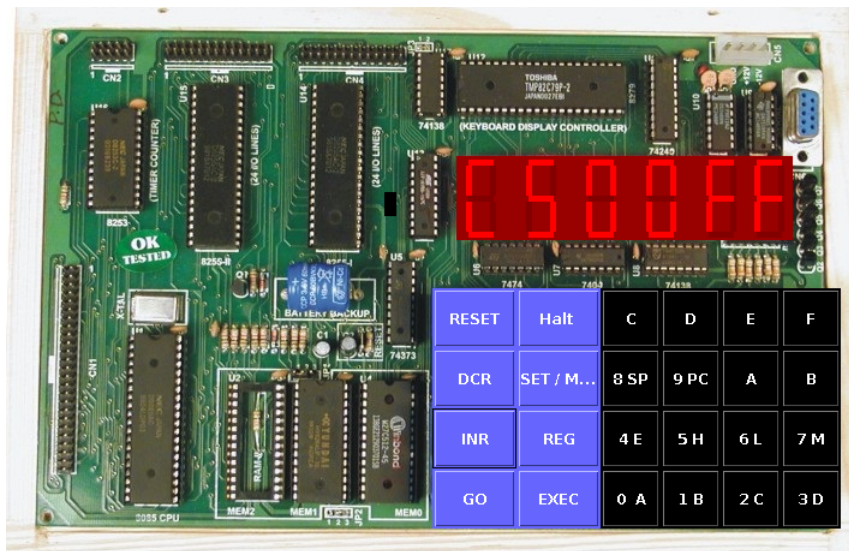


Figure 3: (c) Descending bubble sort

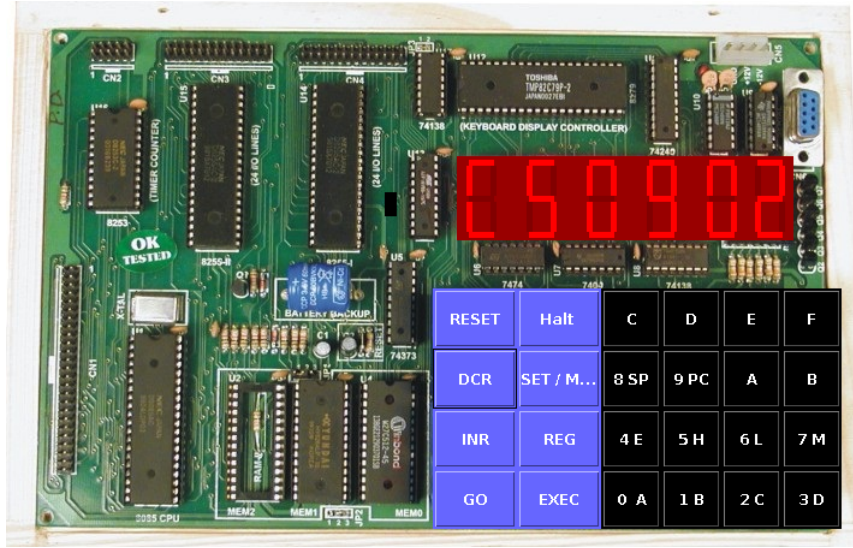


Figure 4: (d) Descending bubble sort

4 Conclusion:

location	data
<i>C500H</i>	<i>FE</i>
<i>C501H</i>	<i>FF</i>
<i>C502H</i>	02
<i>C503H</i>	08
<i>C504H</i>	06
<i>C505H</i>	05
<i>C506H</i>	0A
<i>C507H</i>	0B
<i>C508H</i>	04
<i>C509H</i>	07

Table 1: Input

location	data
<i>C500H</i>	<i>FF</i>
<i>C501H</i>	<i>FE</i>
<i>C502H</i>	0B
<i>C503H</i>	0A
<i>C504H</i>	08
<i>C505H</i>	07
<i>C506H</i>	06
<i>C507H</i>	05
<i>C508H</i>	04
<i>C509H</i>	02

Table 2: Output

Hence the programs for descending sorting of ten 8-bit numbers given in [section 2](#) works as expected for 8085 microprocessor.