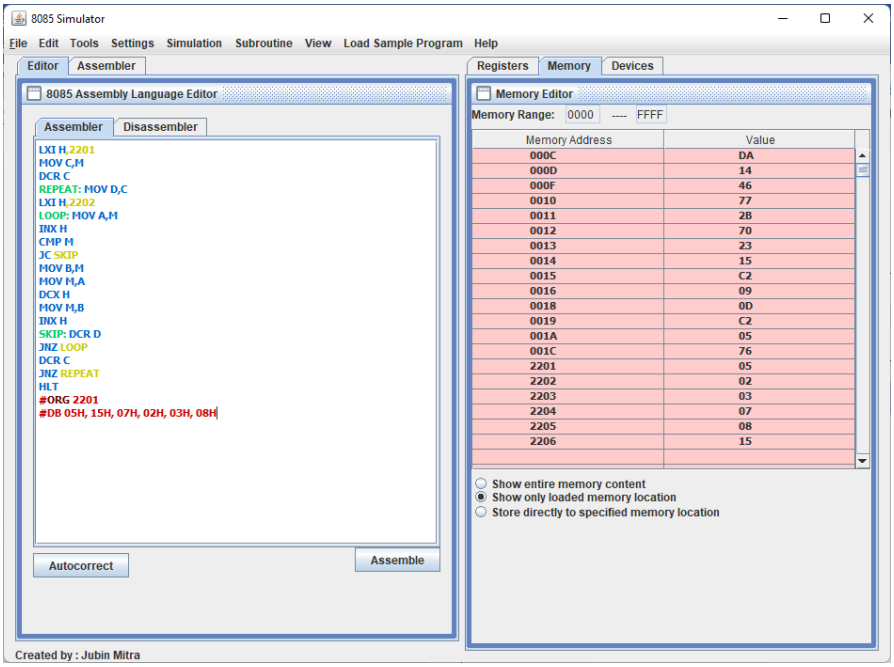
LAB -6

Q.1 WAP to arrange an array of data in ascending order.

Input: (2201H) = 05H (Array size)
(2202H) = 15H
(2203H) = 07H
(2204H) = 12H
(2205H) = 03H
(2206H) = 08H

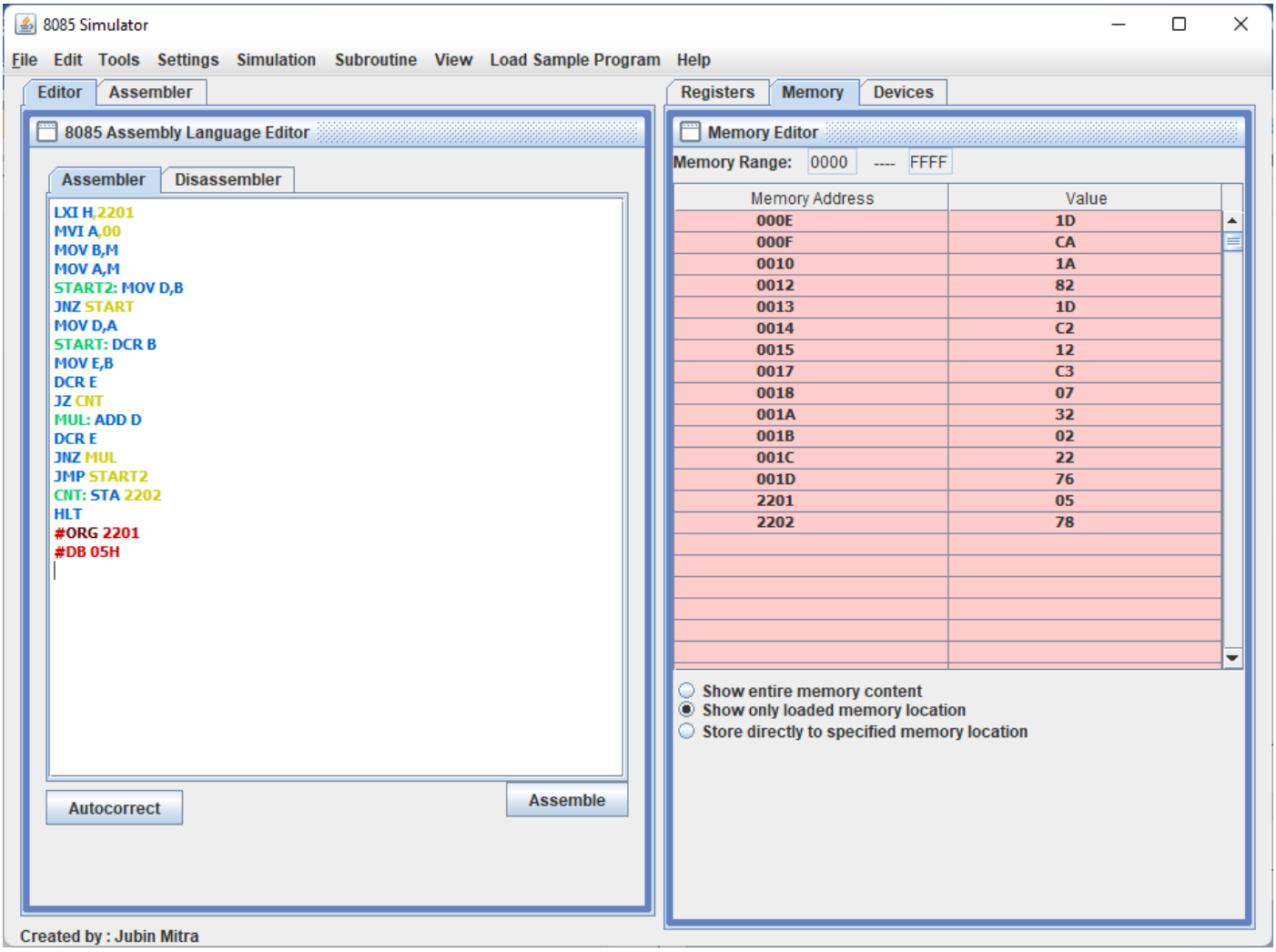
Output: (2201H) = 05H (Array size)
(2202H) = 02H
(2203H) = 03H
(2204H) = 07H
(2205H) = 08H
(2206H) = 15H

```
LXI H,2201
MOV C,M
DCR C
REPEAT: MOV D,C
LXI H,2202
LOOP: MOV A,M
INX H
CMP M
JC SKIP
MOV B,M
MOV M,A
DCX H
MOV M,B
INX H
SKIP: DCR D
JNZ LOOP
DCR C
JNZ REPEAT
HLT
#ORG 2201
#DB 05H, 15H, 07H, 02H, 03H, 08H
```



Q.2 WAP to find the factorial of a number.
Input: (2201H) = 05H
Output: (2202H) = 78H

```
LXI H,2201
MVI A,00
MOV B,M
MOV A,M
START2: MOV D,B
JNZ START
MOV D,A
START: DCR B
MOV E,B
DCR E
JZ CNT
MUL: ADD D
DCR E
JNZ MUL
JMP START2
CNT: STA 2202
HLT
#ORG 2201
#DB 05H
```



Q.3 WAP to generate Fibonacci Series having ten elements.

After Execution

Output: (2200H): 00H

(2201H): 01H

(2202H): 01H

(2203H): 02H

(2204H): 03H

(2205H): 05H

(2206H): 08H

(2207H): 0DH

(2208H): 15H

(2209H): 22H

```
MVI A,00
MVI B,00
MVI C,01
LXI H,2200
MVI D,09
MOV M,A
INX H
MOV M,C
JNZ SKIP
LOOP: MOV M,A
SKIP: INX H
MVI A,00
ADD B
ADD C
MOV B,C
MOV C,A
DCR D
JNZ LOOP
HLT
```