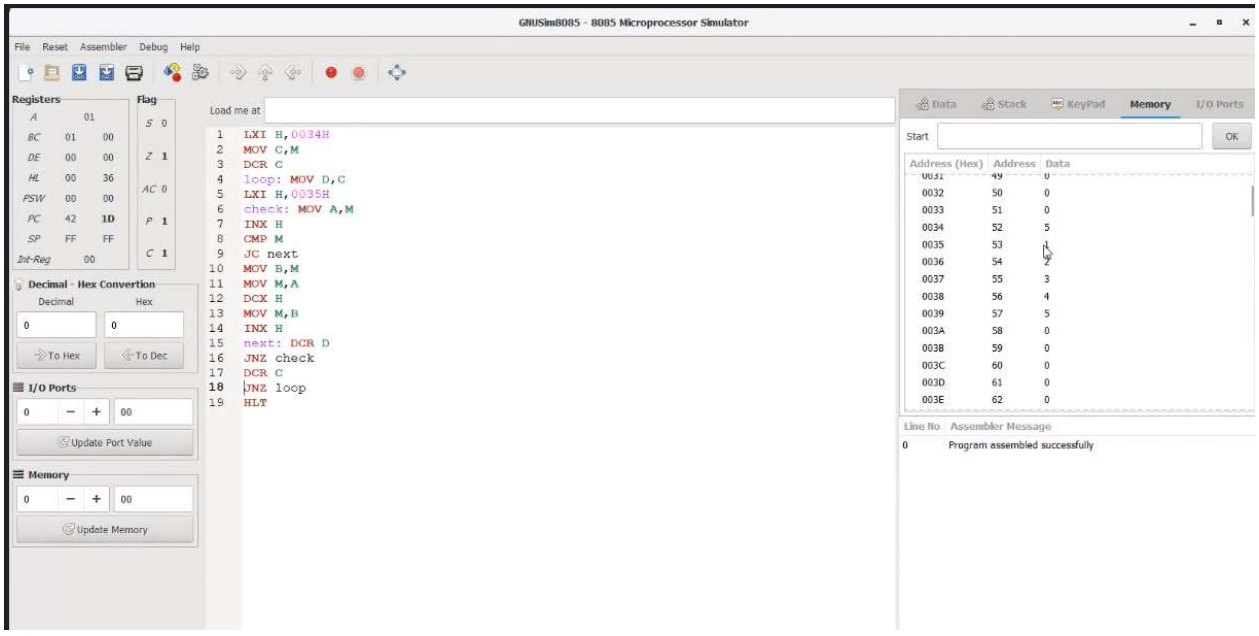
NAME : MD WASIF || enroll : 19UICS002
SUB : CAO LAB || ASSIGNMENT : 7

1. Write a program to store array elements in ascending order in 8085

Aim : Store array elements in ascending order

Algorithm:

1. **Load H-L pair with the size of array.**
2. **Move the value of register C and move to another register D. These two registers will be counters**
3. **Increment H-L pair to the point next location containing first array data values.**
4. **Move the first array element to the accumulator.**
5. **Compare the subsequent elements with the value in A, if smaller move to accumulator. Swap the two values and store the other value in register B. Also decrement D.**
6. **Continue this step until D reached zero. Then decrement register C store value of (C-10) to D**
7. **Repeat steps 5-6 until C becomes zero.**
8. **Terminate the program.**



Observation :

Input:

05	3000
02	3001
03	3002
04	3003
01	3004
06	3005

Output:

05	3000
01	3001
02	3002
03	3003
04	3004
06	3005

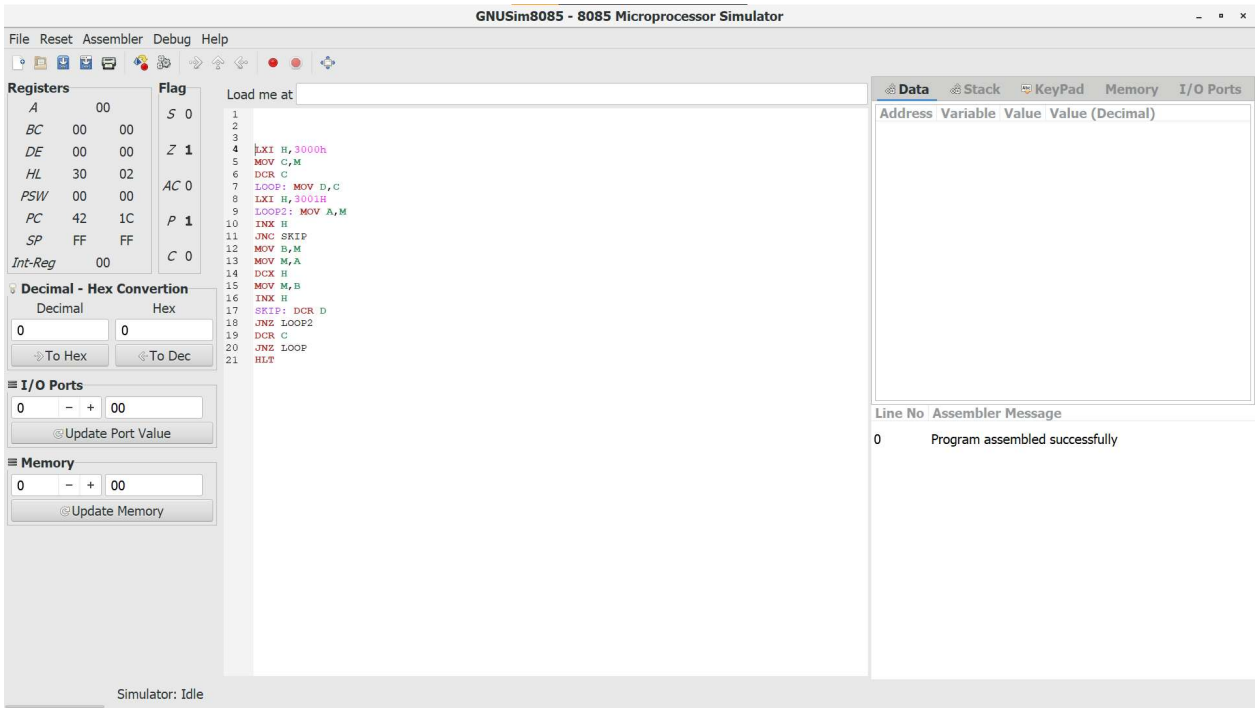
Result:
Thus, the array elements have been sorted in ascending order.

2. Write a program to store array elements in descending order in 8085.

Aim: Store array elements in descending order.

Algorithm:

1. **Load H-L pair with the size of array.**
2. **Move the value of register C and move to another register D. These two registers will be counters**
3. **Increment H-L pair to the point next location containing first array data values.**
4. **Move the first array element to the accumulator.**
5. **Compare the subsequent elements with the value in A, if greater, move to accumulator. Swap the two values and store the other value in register B. Also decrement D.**
6. **Continue this step until D reached zero. Then decrement register C store value of (C-10) to D**
7. **Repeat steps 5-6 until C becomes zero.**
8. **Terminate the program.**




```
LXI H,3000h
MOV C,M
DCR C
LOOP: MOV D,C
LXI H,3001H
LOOP2: MOV A,M
INX H
JNC SKIP
MOV B,M
MOV M,A
DCX H
MOV M,B
INX H
SKIP: DCR D
JNZ LOOP2
DCR C
JNZ LOOP
HLT
```

Observation:

Input :-

3000h – 5 (no of elements in array)

Array (3001h – 3005h) – 2 3 4 1 6

Output :-

Array (3001h – 3005h) – 6 4 3 2 1 (Descending order)

Result:

Thus, the array elements have been sorted in descending order.