MICROPROCESSORS

LAB 2

Q1.

S.No.	Question
1.	Sort the given set of 3 numbers in descending order using a ALP for 8085 MP.

310F	3110	3111	3112
03	1A	3E	02

Solution:

Code:

MVI D, 03H

LOOP1: LXI H, 310fH

MOV B, M

DCR B

INX H

LOOP2:   MOV A, M

INX H

CMP M

JNC FORWARD
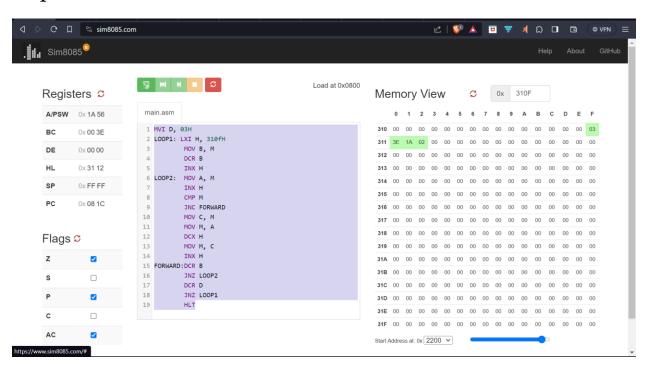
MOV C, M

MOV M, A

DCX H

MOV M, C

INX H

FORWARD:DCR B

JNZ LOOP2

DCR D

JNZ LOOP1

HLT

Ouput:

Microprocessors

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Problem: Sorting of ~~three~~ 'n' numbers using ALP of 8085

1. Load the content of the memory into the register

&

Question: Sort the given 3 numbers in descending order using

a ALP for 8085 IMP

310F	3110	3111	3112
03	1A	3E	02

Solution:

Algo:

1. Take a counter_1 and intialize with length of array (n)

2. Take counter_2 and initialize with n

3. decrement counter_2 each when we check the first cosecutive memory address's data and swap if cy=1

4. ~~de~~ Decrement counter_1 each time counter_2 E=0. then intialise the counter_2 to counter_1.

5. Then Repeat the steps until counter_1 equal zero.

```
        MVI   D, 03H
LOOP1:  LXI   H, 310F
   .    MOV   B, M
        DCR   B   .
        INX   H

LOOP2   MOV   A, M
        INX   H
        CMP M  [A - M]
                 cy = 1 (means 1st < 2nd)
```

```
        JNC     FORWARD
        MOV     C, A
        MOV     A, M
        MOV     M, C

FORWARD:    DCR     B
            JNZ     LOOP 2
            DCR     D
            JNZ     LOOP 1
            HLT
```

22/01/24.