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EXPERIMENT-2

- AIM - Write a program for 8085 to find the largest among 10 8-bit numbers.

- ALGORITHM - In this program data is stored from location 1000H. Memory location 1000H contains size of array of elements i.e. 10. Data elements are stored starting from location 1001H. After execution of the program we will store the result at 2000H memory location.

In this program, we will start by ~~comparing~~ storing first number in accumulator and then we will compare data in accumulator with all other elements one by one and keeping storing maximum ~~of~~ in accumulator. In each iteration the counter of size is also decreased. At the end, we will store accumulator data in 2000H.

- PROGRAM

Address	Mnemonics
4000	LXI H, 1000
4003	MOV C, M
4004	INR H
4005	~~MOV~~ DCR C

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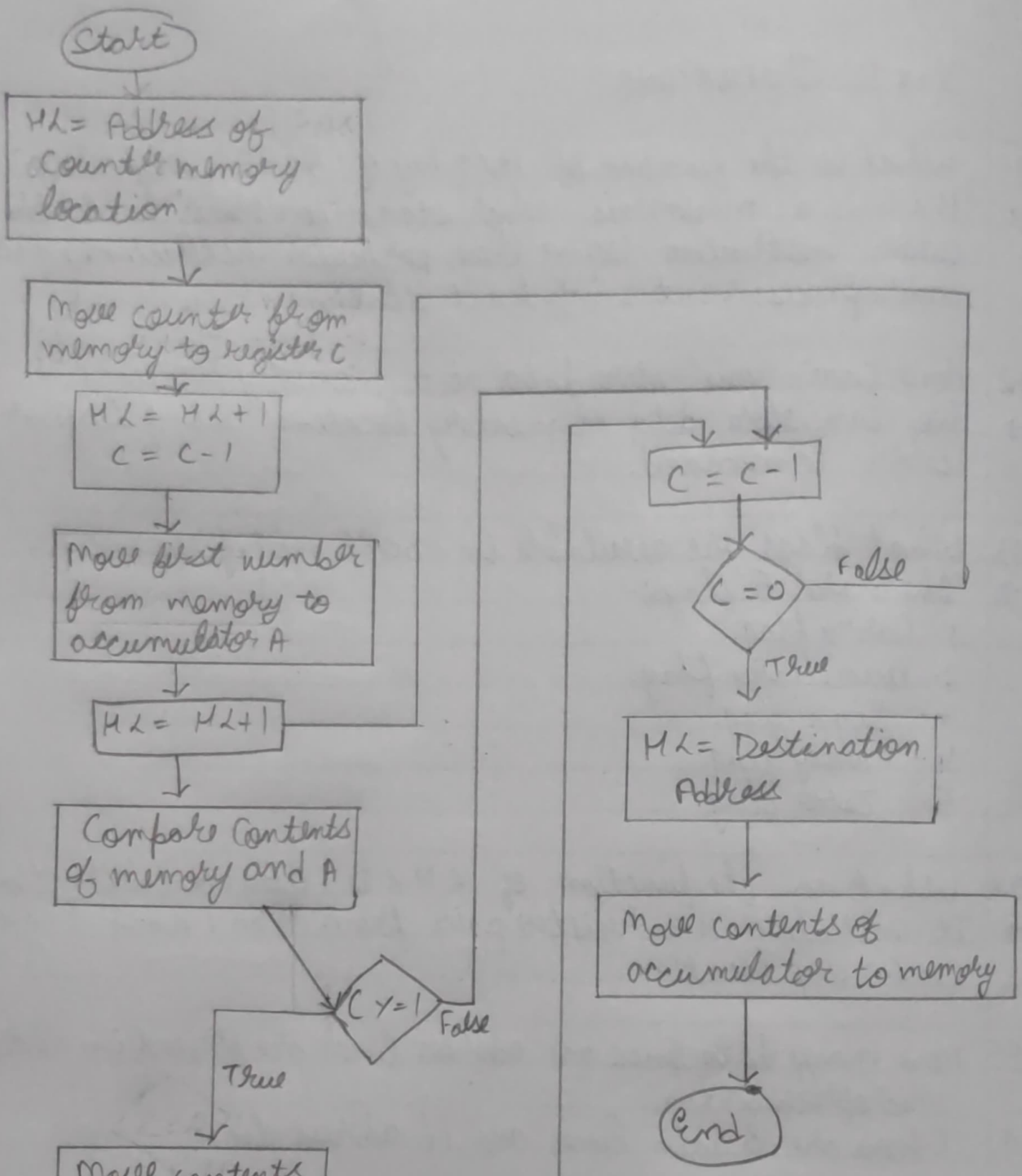
Flow chart


Start
HL = Address of counter memory location
Move counter from memory to register C
HL = HL + 1
C = C - 1
Move first number from memory to accumulator A
HL = HL + 1
Compare Contents of memory and A
CY = 1
False
True
Move contents of memory to accumulator
C = C - 1
C = 0
False
True
HL = Destination Address
Move contents of accumulator to memory
End

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4006		MOV B, M
4007	LOOP	INR H
4008		MOV A, M
4009		CMP B
400A		JNC DO
400D		MOV B, A
400E	DO	DCR C
400F		JNC LOOP
4012		LXI H, 2000H
4015		MOV M, B
4016		RST 5

- VIVA QUESTIONS

01 How many data lines and address lines are in 8085 microprocessor?

→ There are 8 data lines and 16 Address lines in 8085.

02 Give examples of one, two and three byte instructions?

→ 1 byte MOV A, M

2 byte MVI B, 00H

3 byte LXI H, 8000H

03 What is a microcontroller?

→ It is a single chip on which a microprocessor, memory and i/o signal lines are fabricated.

→

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04 What is the difference between SUB M and CMP M ? Both perform A - M.

→ Sub will store the result in A and affect the flags. CMP will not store the result, it will only affect the flags.

05 What is the significance of accumulator in 8085? A is the accumulator.

→ It holds the first operand and the result in arithmetic and logical operations.

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