

EXPERIMENT-1

- **Aim-** Write a program for 8085 to add two numbers of 16 bytes each.
- **ALGORITHM-** The numbers are stored into memory at location 3501H and 3502H. One additional information is stored at location 3500H. In this place we are storing byte count. The result is stored at location 35F0H.

The HL pair is storing address of first operand bytes, the DE is storing address of second operand bytes. C is holding byte count. We are using stack to store the intermediate bytes of result. After completion of addition operation, we are popping from the stack and storing into the destination.

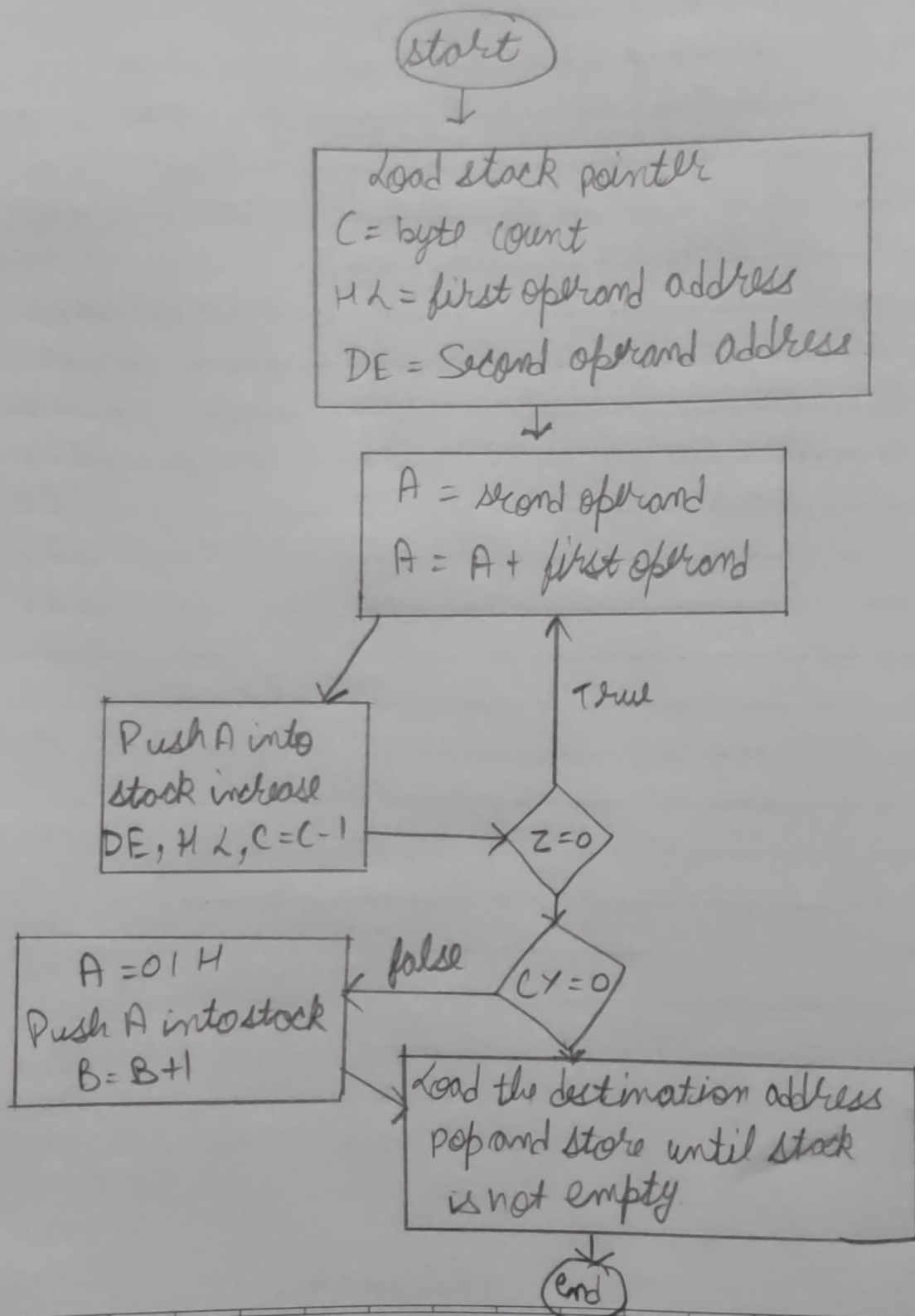
PROGRAM-

Address

Mnemonics.

1.	1000	LXI SP, 200H
2.	1003	LXI H, 3500H
3.	1006	MOV C, M
4.	1007	MVI B, 00H
5.	1009	LXI H, 3501H
6.	100C	LXI D, 3511H
7.	100F	LOOP
		LDAX D

Flow Chart



8.	1010		ADCM
9.	1011		PUSH PSW
10.	1012		INR B
11.	1013		INX H
12.	1014		INX D
13.	1015		DCR C
14.	1016		JNZ LOOP
15.	1019		JNC SKIP
16.	101C		MVI A, 01H
17.	101E		PUSH PSW
18.	101F		INR B
19.	1020	SKIP	LXI H, 035F0H
20.	1023	LI	POP PSW
21.	1024		MOV M, A
22.	1025		INX H
23.	1026		DCR B
24.	1027		JNZ LI
25.	102A		RST 5

- RESULT - The input and output table is mentioned and verified. We obtained the sum of 216 byte numbers in input, as a 16 byte output.

→

Input

Address

Data

3501	16
3502	19
3503	68
3504	12
3505	65
3506	88
3507	25
3508	17
3509	20
350A	23
350B	16
350C	12
350D	21
350E	35
350F	26
3510	18
3511	41
3512	13
3513	49
3514	56
3515	62
3516	33
3517	29
3518	67
3519	72
351A	29
351B	44
351C	22
351D	11
351E	69
351F	68
3520	47
3521	10

Output

Address

Data

35F0	00
35F1	51
35F2	5F
35F3	7D
35F4	9E
35F5	38
35F6	34
35F7	5A
35F8	8C
35F9	92
35FA	7E
35FB	4E
35FC	BB
35FD	E7
35FE	68
35FF	81
3600	2C

VIVA QUESTIONS

- Q1 What is the function of HLT key of 8085 microprocessor.
→ HLT is a mnemonic which stands for 'Halt' the microprocessor instruction. Using these particular instruction, 8085 microprocessor enter into halt state.
- Q2 How can you store data at a memory location?
→ We can store data at memory location using LDA or LXI command.
- Q3 What flags are available in 8085 microprocessor?
→ There are 5 flags:-
1. Carry flag.
2. Auxiliary flag.
3. Sign flag.
4. Parity flag.
5. Zero flag.
- Q4 What is the function of LXI 8501H instruction.
→ It initialise HL register pair from 8501H and 8502H memory location.
- Q5 How many data lines and address lines are present in 8085 microprocessor?
→ There are 8 data lines and 16 address lines.