

Experiment 2.1

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Branch: CSE

Semester: 4th

Subject Name: MPI Lab

UID: 20BCS1812

Section/Group: 607A

Date of Performance: 08/03/2022

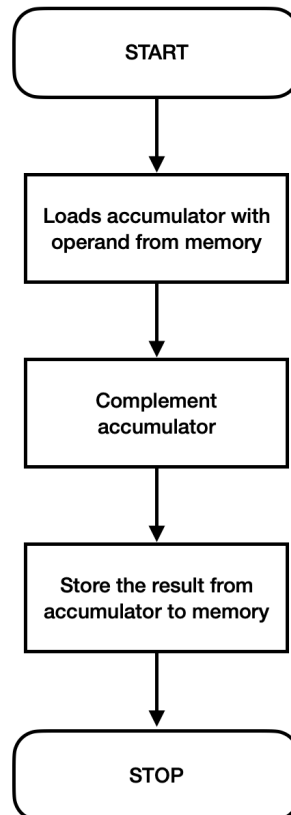
Subject Code: 22E-20CSP-253

1) Aim/Overview of the practical:

a) 1's complement of 8 bit number.

Apparatus/Simulator used: 8085 simulator

Flowchart:



Algorithm:

- 1. LDA 5010 loaded data into accumulator from memory location 5010H.**
- 2. CMA compliments the accumulator.**
- 3. STA 5011 stores result from accumulator in memory location 5011H.**
- 4. HLT end of the execution.**

Steps for experiment/practical/Code:

BEGIN 0000H

LDA 5010

CMA

STA 5011

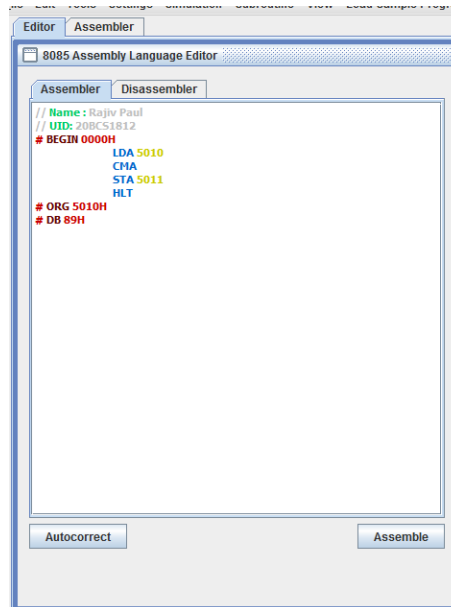
HLT

ORG 5010H

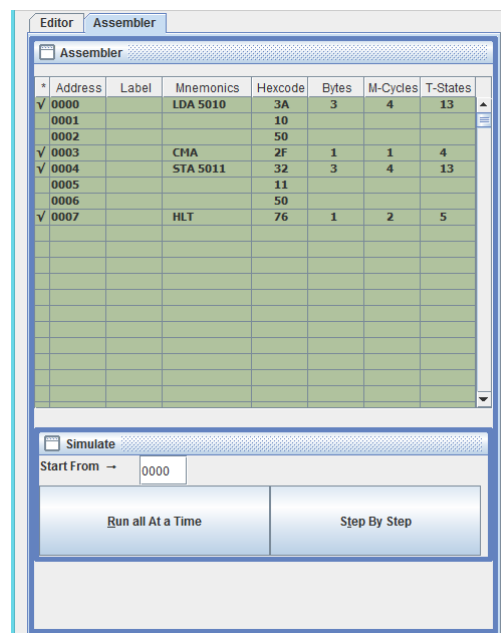
DB 89H

Simulation:

1. CODE IN EDITOR WINDOW:



2. ASSEMBLER WINDOW:



RESULT

BEFORE EXECUTION:

5010H: 89

AFTER EXECUTION:

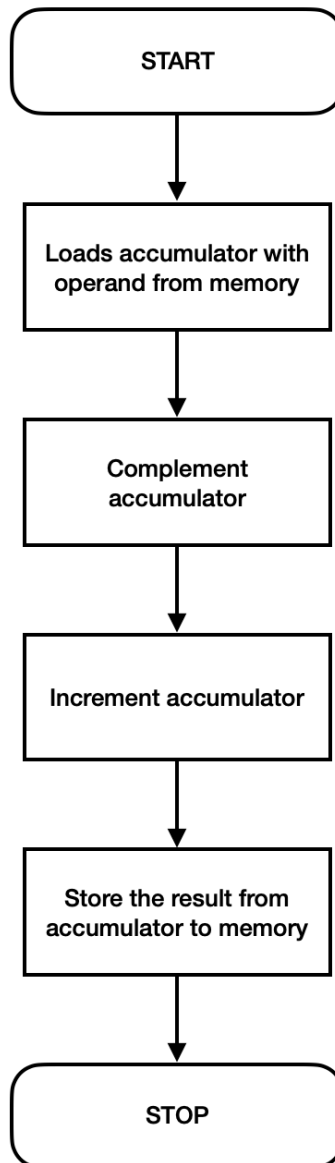
5011H: 76

Aim/Overview of the practical:

b) 2's complement of 8 bit number.

Apparatus/Simulator used: 8085 simulator

Flowchart:



Algorithm:

1. LDA 5010 loaded data into accumulator from memory location 5010H.
2. CMA compliments the accumulator.
3. INR A increments the accumulator by 1.
4. STA 5011 stores result from accumulator in memory location 5011H.
5. HLT end of the execution.

Steps for experiment/practical/Code:

BEGIN 0000H

LDA 5010

CMA

INR A

STA 5011

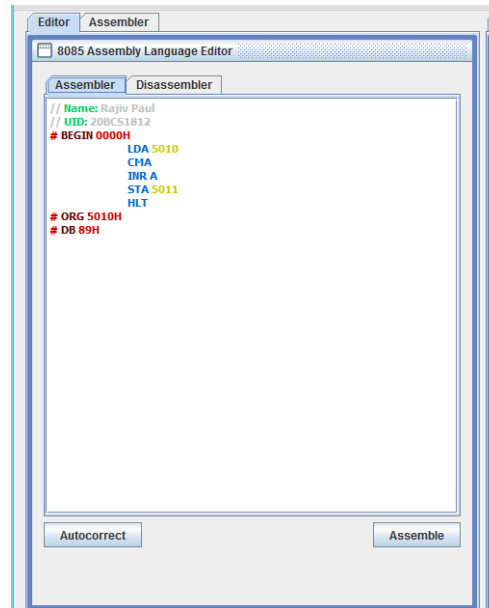
HLT

ORG 5010H

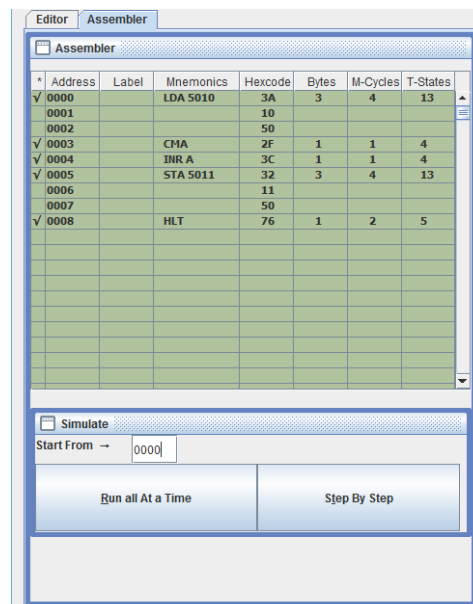
DB 89H

Simulation:

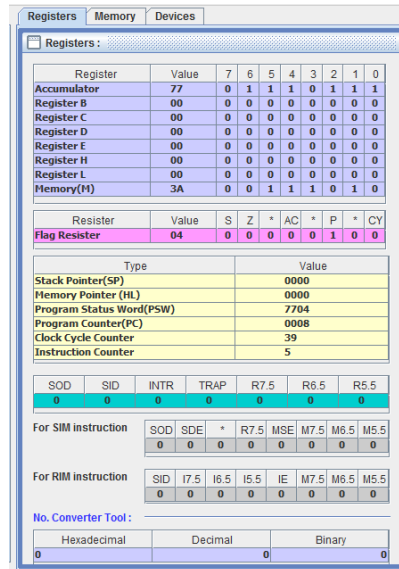
1. CODE IN EDITOR WINDOW:



2. ASSEMBLER WINDOW:



3. REGISTERS:



Register	Value	7	6	5	4	3	2	1	0
Accumulator	77	0	1	1	1	0	1	1	1
Register B	00	0	0	0	0	0	0	0	0
Register C	00	0	0	0	0	0	0	0	0
Register D	00	0	0	0	0	0	0	0	0
Register E	00	0	0	0	0	0	0	0	0
Register H	00	0	0	0	0	0	0	0	0
Register L	00	0	0	0	0	0	0	0	0
Memory(M)	3A	0	0	1	1	1	0	1	0

Register	Value	S	Z	*	AC	*	P	*	CY
Flag Register	04	0	0	0	0	0	1	0	0

Type	Value
Stack Pointer(SP)	0000
Memory Pointer (HL)	0000
Program Status Word(PSW)	7704
Program Counter(PC)	0008
Clock Cycle Counter	39
Instruction Counter	5

SOD	SID	INTR	TRAP	R7.5	R6.5	R5.5
0	0	0	0	0	0	0

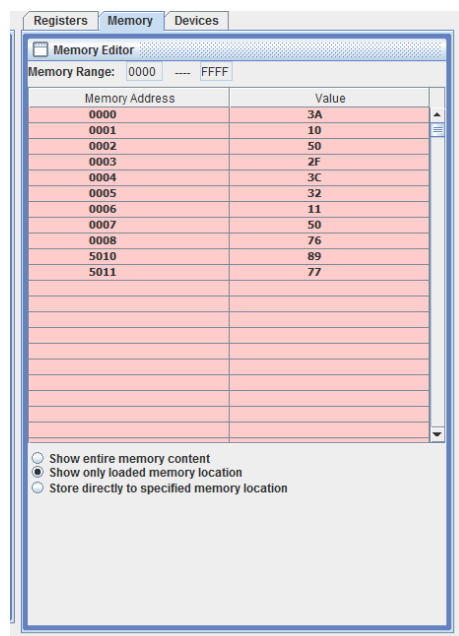
For SIM instruction		SOD	SDE	*	R7.5	MSE	M7.5	M6.5	M5.5
		0	0	0	0	0	0	0	0

For RIM instruction		SID	I7.5	I6.5	I5.5	IE	M7.5	M6.5	M5.5
		0	0	0	0	0	0	0	0

No. Converter Tool :

Hexadecimal	Decimal	Binary
0		0

4. MEMORY:



Memory Address	Value
0000	3A
0001	10
0002	50
0003	2F
0004	3C
0005	32
0006	11
0007	50
0008	76
5010	89
5011	77

Memory Range: 0000 --- FFFF

☐ Show entire memory content
☒ Show only loaded memory location
☐ Store directly to specified memory location



RESULT

BEFORE EXECUTION:

5010H: 89

AFTER EXECUTION:

5011H : 77

Learning outcomes (What I have learnt):

- 1.Learnt about 8085 simulator**
- 2. Learnt how to 1's and 2's complements of 8bit number.**
- 3. Learnt what LDA works for.**
- 4. Learnt about CMA and STA.**
- 5.**

Evaluation Grid (To be created as per the SOP and Assessment guidelines by the faculty):

Sr. No.	Parameters	Marks Obtained	Maximum Marks
1.			
2.			
3.			