Experiment 2.1

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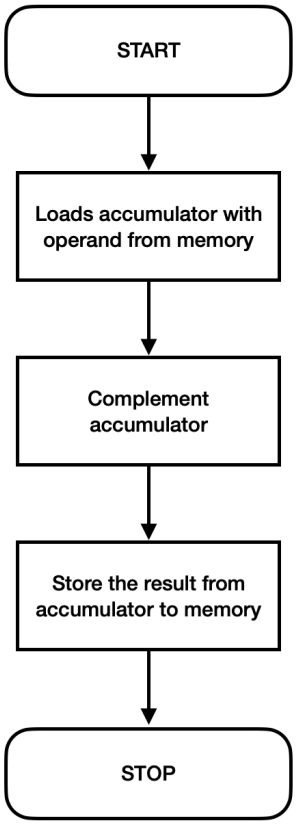
Branch: CSE **Section/Group:607A**
Semester: 4th **Date of Performance: 08/03/2022**
Subject Name:MPI Lab **Subject Code: 22E-20CSP-253**

1) **Aim/Overview of the practical:**

a) 1's complement of 8 bit number.

Apparatus/Simulator used: 8085 simulator

Flowchart:


START
Loads accumulator with operand from memory
Complement accumulator
Store the result from accumulator to memory
STOP

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

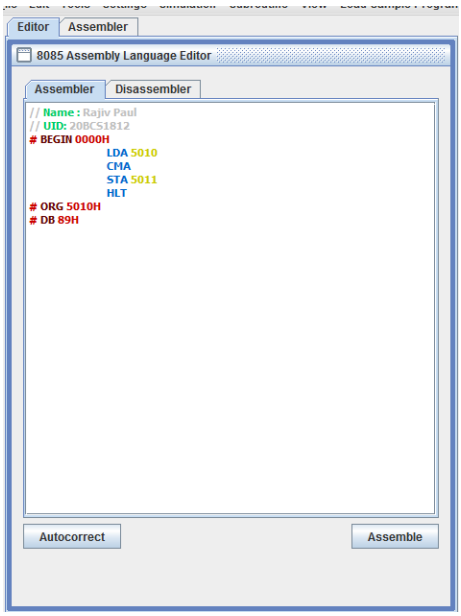
HLT

 # ORG 5010H

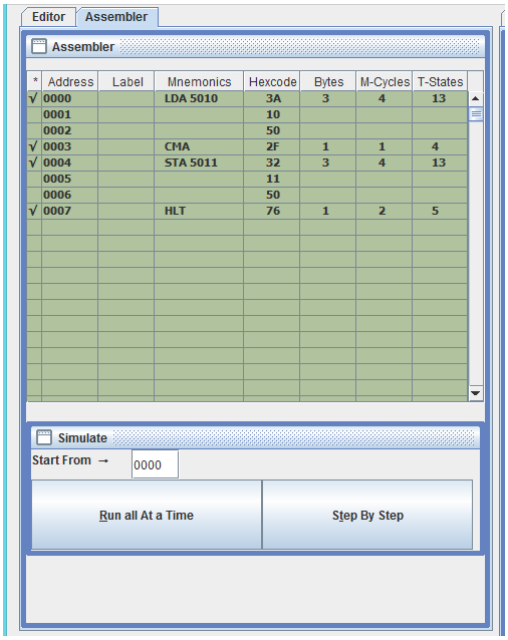
 # DB 89H

Simulation:

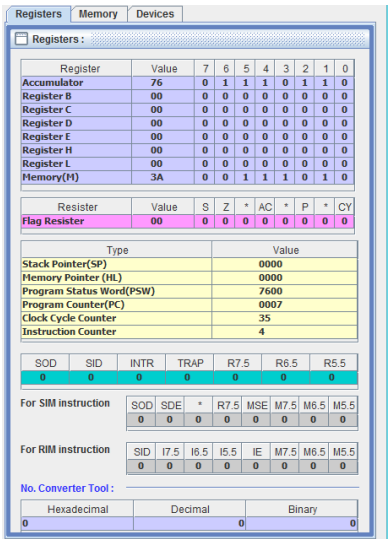
1. CODE IN EDITOR WINDOW:



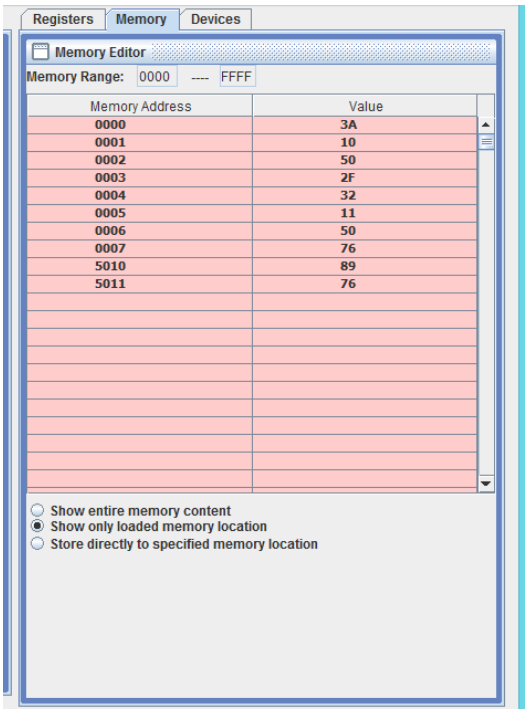
2. ASSEMBLER WINDOW:



3. REGISTERS:



4. MEMORY:



RESULT

BEFORE EXECUTION:

5010H: 89

AFTER EXECUTION:

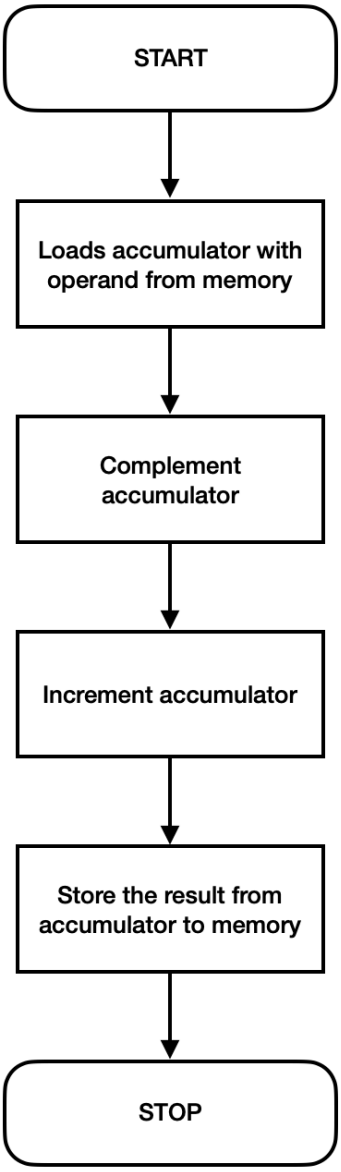
5011H: 76

Aim/Overview of the practical:

b) 2's complement of 8 bit number.

Apparatus/Simulator used: 8085 simulator

Flowchart:


START
Loads accumulator with operand from memory
Complement accumulator
Increment accumulator
Store the result from accumulator to memory
STOP

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

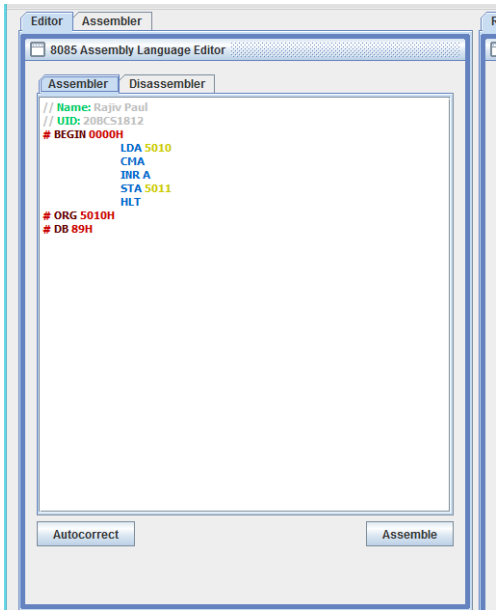
HLT

 # ORG 5010H

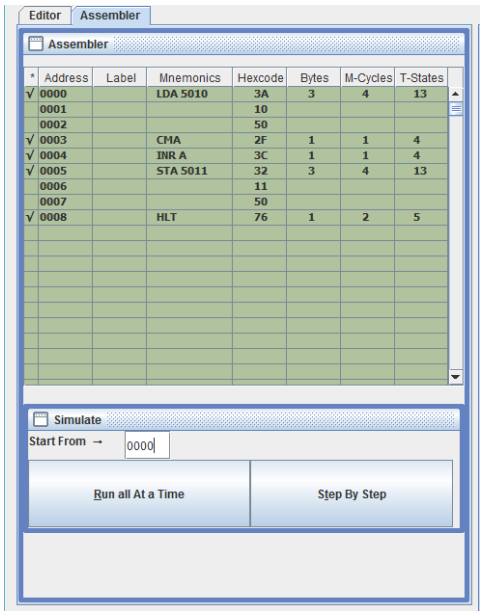
 # DB 89H

Simulation:

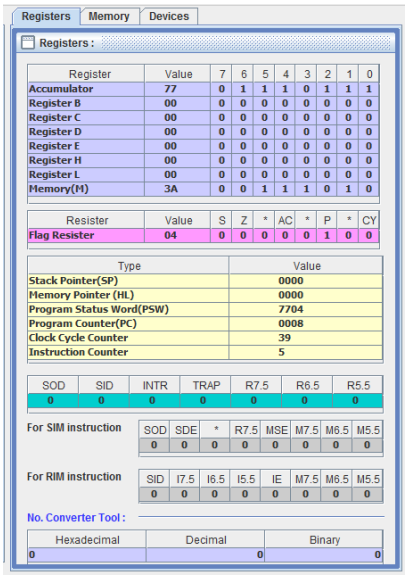
1. CODE IN EDITOR WINDOW:



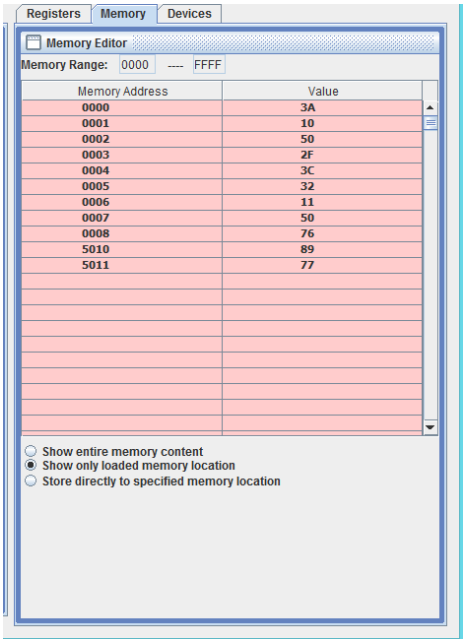
2. ASSEMBLER WINDOW:



3. REGISTERS:



4. MEMORY:



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.			