



Worksheet 1.3

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Branch: BE-CSE (LEET) **Section/Group:** ON20BCS-809/A

Semester: 4th Sem **Date of Performance:** 20/02/2022

Subject Name: MPI Lab Subject Code: 22E-20CSP-253

1. Aim/Overview of the practical:

a) Subtraction of two 8bit numbers along with considering borrow.

b) Subtraction of two 16bit numbers along with considering borrow.

2. Task to be done:

Write the 8085 Micro Processor program to calculate the subtraction of two 8bit as well as 16bit numbers.

3. Apparatus/Simulator used (For applied/experimental sciences/materials-based labs):

- I. 8085 Jubin simulator version 2 (Microprocessor Simulator)
- **II.** Java (jdk/ jre1.8.0_321)

4. Algorithm/Flowchart (For programming-based labs):

a) Subtraction of two 8bit number:

- 1. Load the first number from memory location 3000 to Memory.
- II. Move the content of memory to accumulator,
- III. Increase the memory location of HL pair.
- IV. Load the second number from memory location 3001 to Memory.
- **V.** Move the content of memory to B,
- VI. Then subtract the B from the Accumulator and store in Accumulator.
- **VII.** Move the content of Accumulator to memory M,
- VIII. Exit the program.

b) Subtraction of two 16bit number

- I. Load the 1st pair number from memory location 3000,3001 to HL pair.
- **II.** Exchange it with the DE pairs.
- III. Load the 2nd pair number from memory location 3002,3003 to HL pair.







- **IV.** Move the content from E to accumulator.
- V. Subtract the L from accumulator.
- **VI.** Move the content from accumulator to L register.
- **VII.** Move the content from D to accumulator.
- **VIII.** Subtract the H from accumulator with the borrow.
- **IX.** Move Accumulator to H register.
- **X.** Move the content of HL pair Register to memory location 1004,1005,
- XI. Exit the program.

5. Description/ Code:

a) Subtraction of two 8bit number:

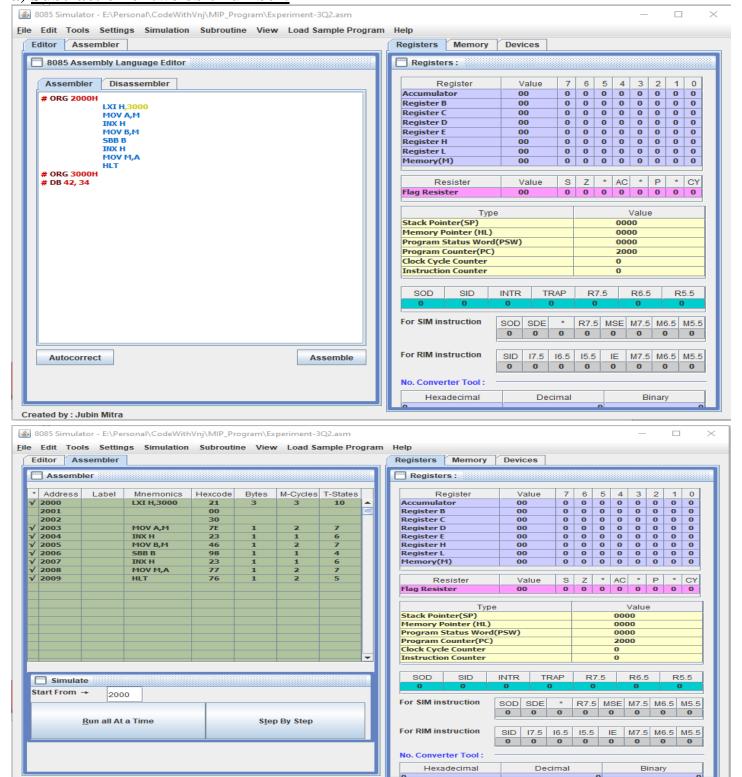
b) Subtraction of two 16bit number





6. Result/Output/Writing Summary:

a) Subtraction of two 8bit number:





Created by: Jubin Mitra



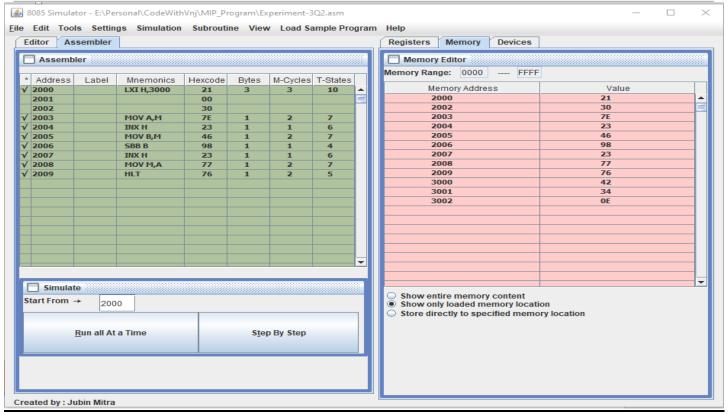




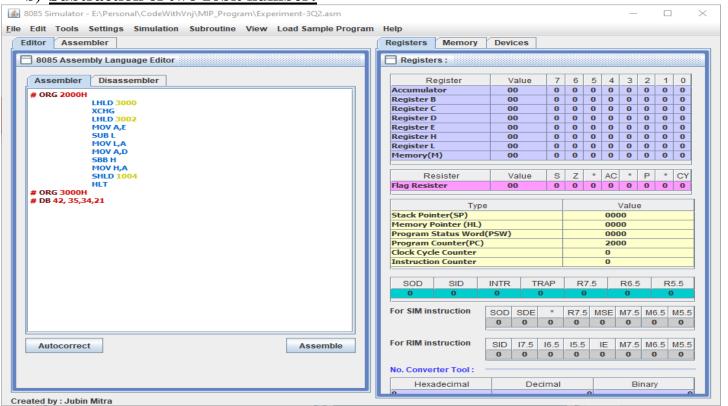








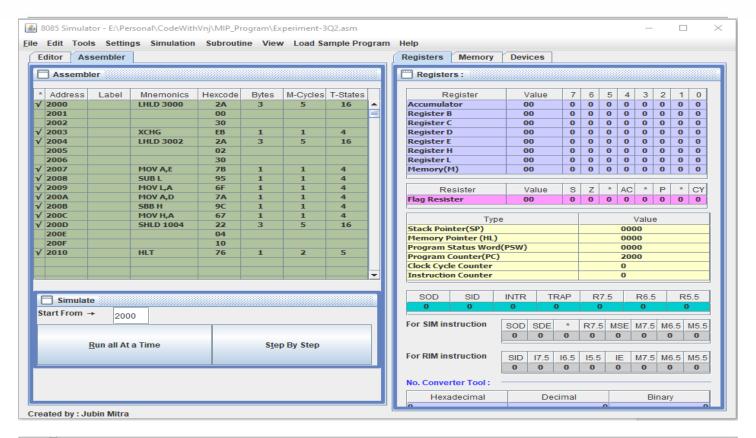
b) Subtraction of two 16bit number:

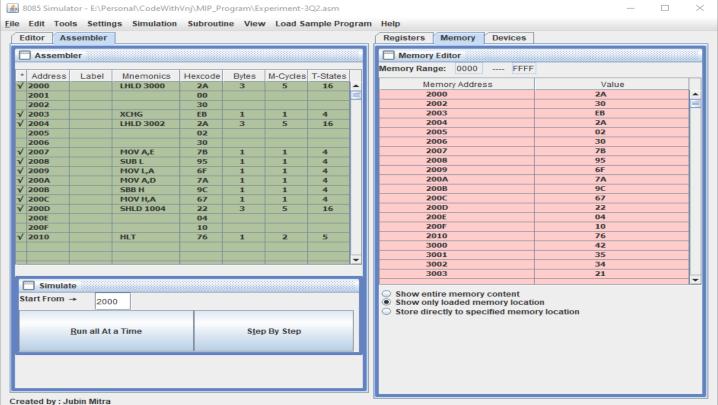








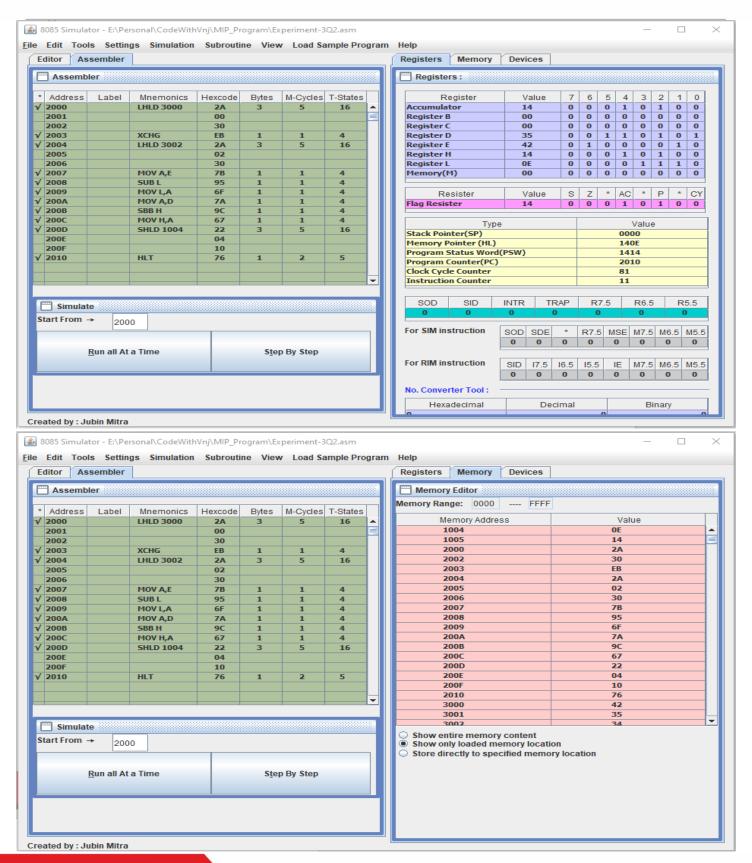


















Learning outcomes (What I have learnt):

- **1.** Learnt how to do the 8085-microprocessor programming.
- 2. Learnt how to Subtract the two 8bit numbers with the carry.
- **3.** Learnt how to Subtract the two 16bits numbers with the carry.

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.			

