

Experiment 1.2

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Branch: CSE

Semester: 4th

Subject Name: MPI Lab

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Section/Group: 607A

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1) Aim/Overview of the practical:

Write a program to perform Addition of two 16bit numbers, sum 16 bit.

2) Task to be done/ Which logistics used:

To perform Addition of two 16bit numbers, sum 16 bit.

3) Apparatus/Simulator used: 8085 simulator

4) Steps for experiment/practical/Code:

LHLD 3000

XCHG

LHLD 3002

DAD D

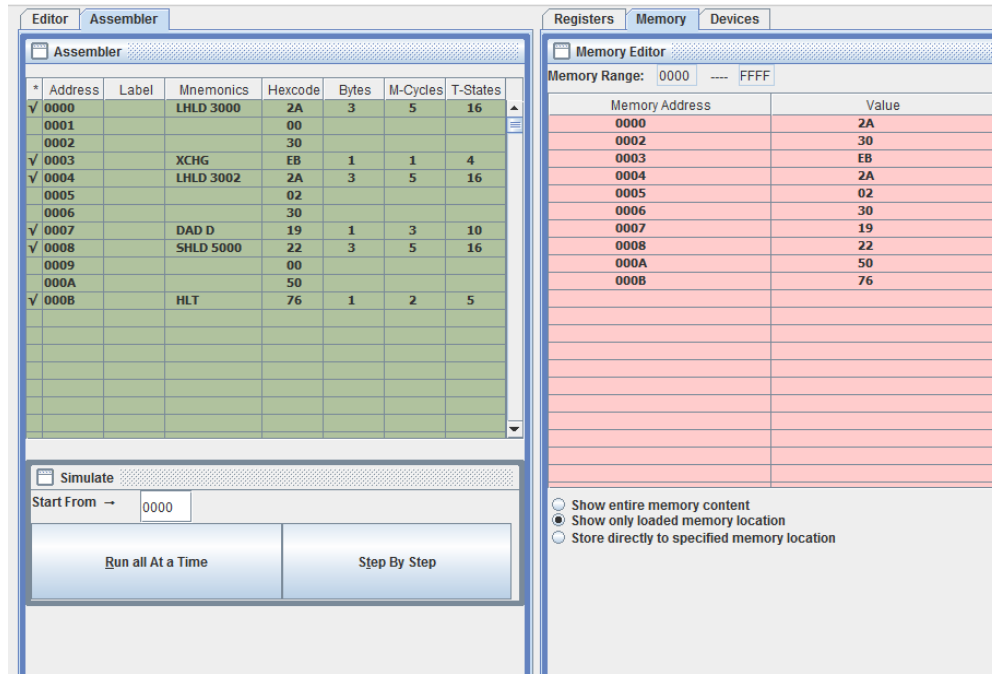
SHLD 5000

HLT

5. Algorithm:

- 1. LHLD 3000** Loaded the value at 3000 in L and that 3001 in H register(first number).
- 2. XCHG** Copied the content of H and L to D and S respectively.
- 3. LHLD 3002** Loaded the value at 3002 in L and that in 3003 in H register(second number).
- 4. DAD D** adds the value of H and L with D and E respectively and stores the result in H and L .
- 5. SHLD 5000** stores the result at the memory location 5000.
- 6.HLT** ends the execution.

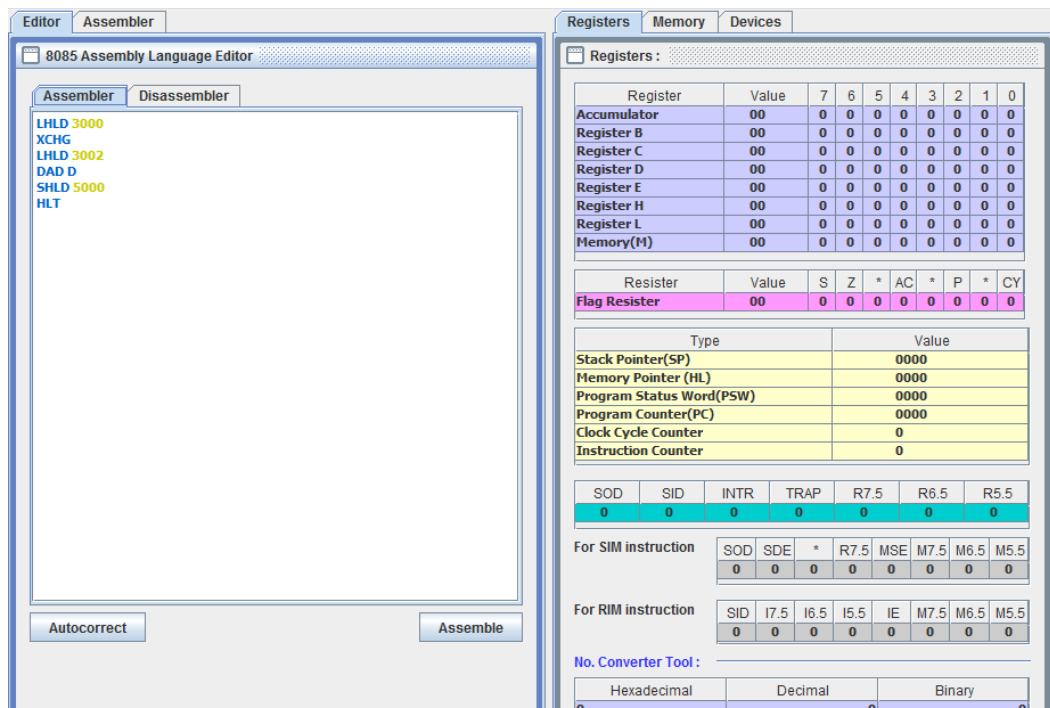
6. Result/Output/Writing Summary:



The screenshot shows the 8085 Assembler and Memory Editor interface. The Assembler window displays a table of assembly instructions with columns for Address, Label, Mnemonics, Hexcode, Bytes, M-Cycles, and T-States. The Memory Editor window shows a table of memory addresses and values, with options to show entire memory content, show only loaded memory location, or store directly to specified memory location.

* Address	Label	Mnemonics	Hexcode	Bytes	M-Cycles	T-States
✓ 0000		LHLD 3000	2A	3	5	16
0001			00			
0002			30			
✓ 0003		XCHG	EB	1	1	4
✓ 0004		LHLD 3002	2A	3	5	16
0005			02			
0006			30			
✓ 0007		DAD D	19	1	3	10
✓ 0008		SHLD 5000	22	3	5	16
0009			00			
000A			50			
✓ 000B		HLT	76	1	2	5

Memory Address	Value
0000	2A
0002	30
0003	EB
0004	2A
0005	02
0006	30
0007	19
0008	22
000A	50
000B	76



The screenshot shows the 8085 Assembly Language Editor and Registers window. The Assembly Language Editor displays a list of assembly instructions: LHLD 3000, XCHG, LHLD 3002, DAD D, SHLD 5000, and HLT. The Registers window shows the status of various registers and flags, including the Accumulator, Register B, Register C, Register D, Register E, Register H, Register L, and Memory(M). It also displays the Flag Register, Stack Pointer (SP), Memory Pointer (HL), Program Status Word (PSW), Program Counter (PC), Clock Cycle Counter, and Instruction Counter.

Register	Value	7	6	5	4	3	2	1	0
Accumulator	00	0	0	0	0	0	0	0	0
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)	00	0	0	0	0	0	0	0	0

Register	Value	S	Z	*	AC	*	P	*	CY
Flag Register	00	0	0	0	0	0	0	0	0

Type	Value
Stack Pointer(SP)	0000
Memory Pointer (HL)	0000
Program Status Word(PSW)	0000
Program Counter(PC)	0000
Clock Cycle Counter	0
Instruction Counter	0

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

Learning outcomes (What I have learnt):

- 1.Learnt about 8085 simulator**
- 2.how to perform 16 bits addition**
- 3.**
- 4.**
- 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.			