



Experiment 7.

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Branch: CSE

Semester: 4th

Subject Name: MPI Lab

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Section/Group: CSE 6 A

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Subject Code:CSP-277

1. Aim:

To perform Shifting operation on 8 Bit.

2. Task to be done:

1. Shift left 8-Bit number by 1 bit.
- 2.Shift left 8-Bit number by 2 bit.

3. Apparatus/Simulator used :

8085 trainer kit/ Jubin 8085 simulator.

4. Algorithm/Flowchart:

STEP1: START

STEP2: load accumulator with content at memory location 2000

STEP3: use instruction RAL which stands for rotate accumulator left

STEP4: store the data in accumulator

STEP5: halt the process

STEP6: give starting address and value

STEP7: END



5. Description/ Code:

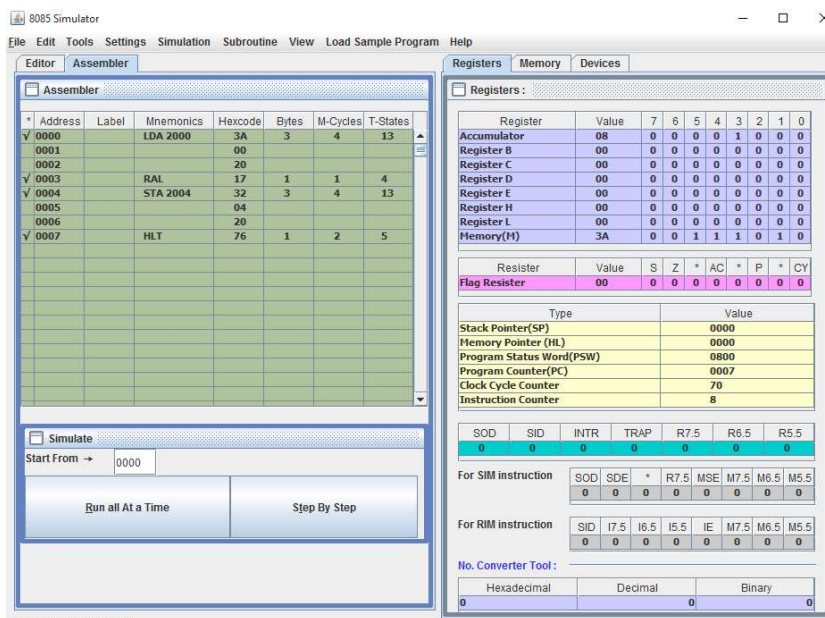
SHIFT 1 BIT

LDA 2000
RAL
STA 2004
HLT
#ORG 2000
#DB 04

SHIFT 1 BIT

LDA 2000
RAL
RAL
STA 2004
HLT
#ORG 2000
#DB 04

6. Result/Output/Writing Summary:



8085 Simulator

File Edit Tools Settings Simulation Subroutine View Load Sample Program Help

Editor Assembler

Assembler

* Address	Label	Mnemonics	Hexcode	Bytes	M-Cycles	T-States
✓ 0000		LDA 2000	3A	3	4	13
0001			00			
0002			20			
✓ 0003		RAL	17	1	1	4
✓ 0004		STA 2004	32	3	4	13
0005			04			
0006			20			
✓ 0007		HLT	76	1	2	5

Simulate

Start From → 0000

Run all At a Time Step By Step

Registers Memory Devices

Registers :

Register	Value	7	6	5	4	3	2	1	0
Accumulator	08	0	0	0	0	1	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(H)	3A	0	0	1	1	1	0	1	0

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

Type	Value
Stack Pointer(SP)	0000
Memory Pointer (HL)	0000
Program Status Word(PSW)	0800
Program Counter(PC)	0007
Clock Cycle Counter	70
Instruction Counter	8

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

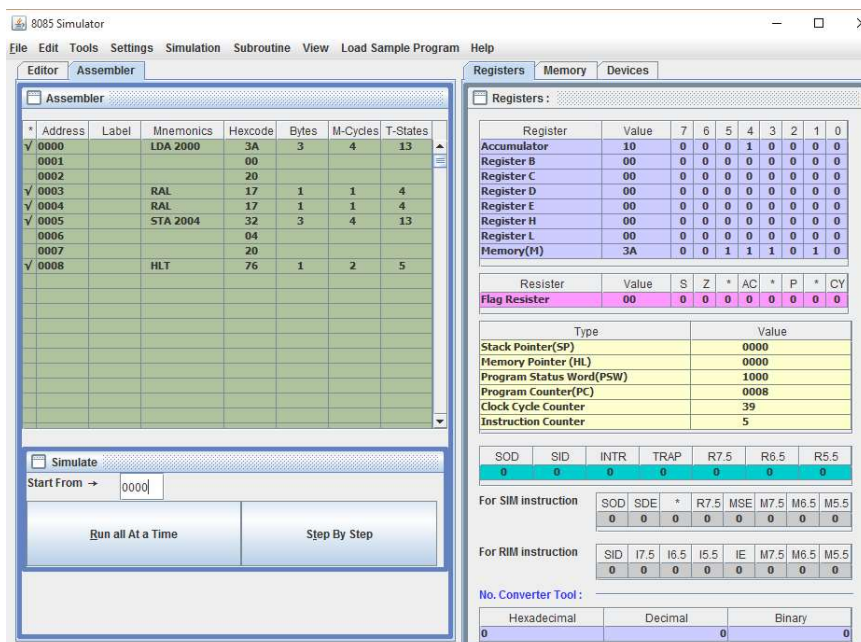
For RIM instruction

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

SHIFT 2 BIT



8085 Simulator

File Edit Tools Settings Simulation Subroutine View Load Sample Program Help

Editor Assembler

Assembler

* Address	Label	Mnemonics	Hexcode	Bytes	M-Cycles	T-States
✓ 0000		LDA 2000	3A	3	4	13
0001			00			
0002			20			
✓ 0003		RAL	17	1	1	4
✓ 0004		RAL	17	1	1	4
✓ 0005		STA 2004	32	3	4	13
0006			04			
0007			20			
✓ 0008		HLT	76	1	2	5

Simulate

Start From → 0000

Run all At a Time Step By Step

Registers Memory Devices

Registers :

Register	Value	7	6	5	4	3	2	1	0
Accumulator	10	0	0	0	1	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(H)	3A	0	0	1	1	1	0	1	0

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

Type	Value
Stack Pointer(SP)	0000
Memory Pointer (HL)	0000
Program Status Word(PSW)	1000
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

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):

- I. We learnt about the 8085 microprocessor trainer kit.
- II. We studied various components of the trainer kit and analyzed them.
- III. We studied about various types of instructions as well.
- IV. We learnt about the microprocessor simulator and were able to identify the components in digital edition.
- V. Learnt to use digital simulator.

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.			