

Experiment-09

Student Name:

UID:

Branch: B.E.CSE

Section/Group:

Semester: 4th

Date of Performance: 23/04/2022

Subject Name: MPI Lab

Subject Code: 20CSP253

1. Aim/Overview of the practical:

- a) Find the smaller out of two numbers.
- b) Find the larger out of two numbers.

2. Task to be done:

- a) Find the smaller out of two numbers.
- b) Find the larger out of two numbers.

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

Jubin , Java

4. Description/ Code:

a) Find the smaller out of two numbers.

#BEGIN 0000H

LXI H,3000H

MOV A,M

INX H

MOV B,M

CMP B

JC 200BH

MOV A,B

INX H

MOV M,A

HLT

#ORG 3000H

#DB 24H,16H

b) Find the larger out of two numbers.

#BEGIN 0000H

LXI H,3000H

MOV A,M



INX H

MOV B,M

CMP B

JNC 200BH

MOV A,B

INX H

MOV M,A

HLT

#ORG 3000H #DB

14H,18H

5. Result/Output/Writing Summary:

a) Find the smaller out of two numbers.

8085 Simulator
— □ ×

File Edit Tools Settings Simulation Subroutine View Load Sample Program Help

Editor Assembler

8085 Assembly Language Editor

Assembler Disassembler

```
#BEGIN 0000H
LXI H,3000H
MOV A,M
INX H
MOV B,M
CMP B
JC 200BH
MOV A,B
INX H
MOV M,A
HLT

#ORG 3000H
#DB 24H,16H
```

Autocorrect
Assemble

Registers Memory Devices

Registers :

Register	Value	7	6	5	4	3	2	1	0
Accumulator	16	0	0	0	1	0	1	1	0
Register B	16	0	0	0	1	0	1	1	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	30	0	0	1	1	0	0	0	0
Register L	02	0	0	0	0	0	0	1	0
Memory(M)	16	0	0	0	1	0	1	1	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)	3002
Program Status Word(PSW)	1600
Program Counter(PC)	000D
Clock Cycle Counter	63
Instruction Counter	10

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

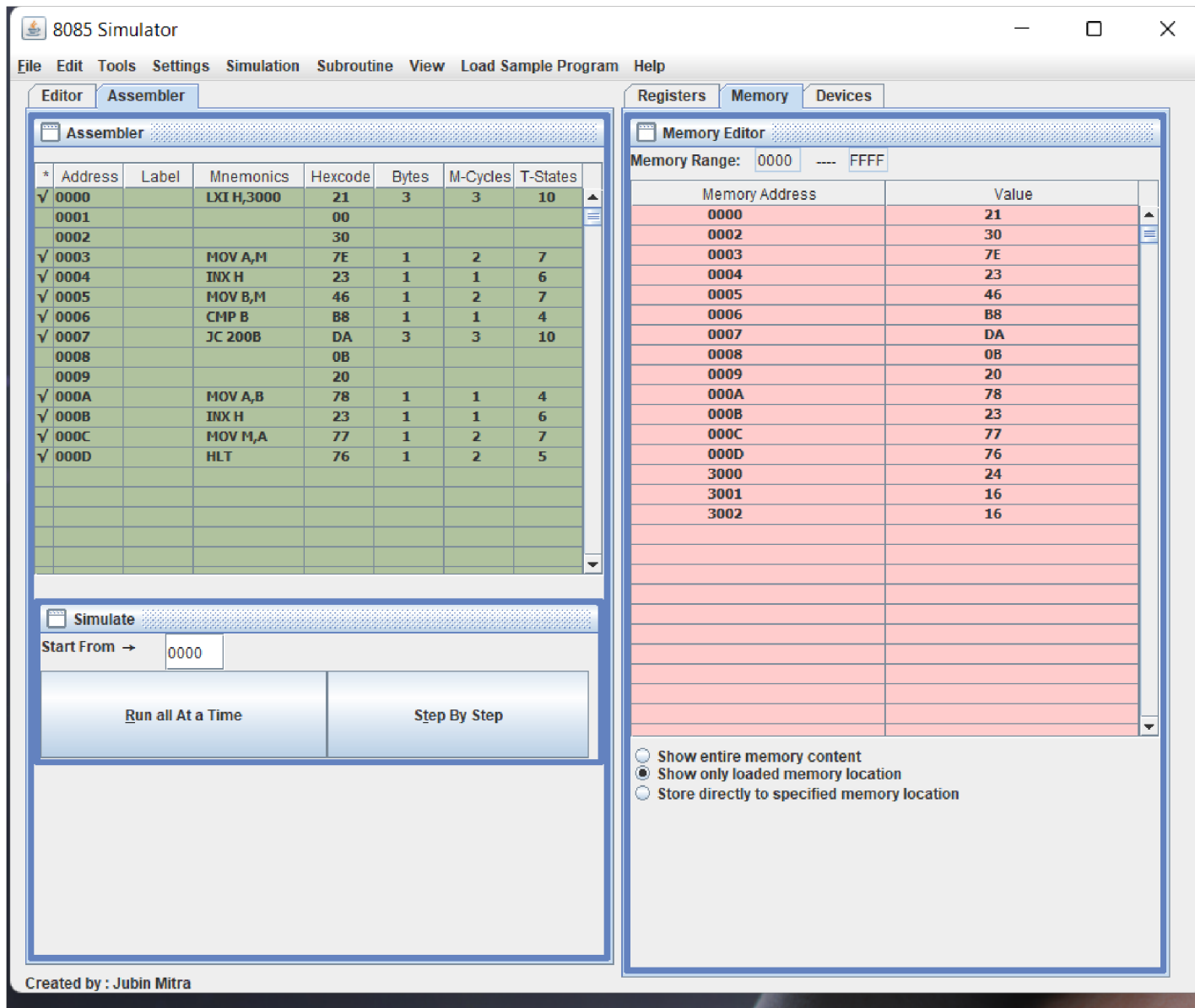
For SIM instruction		SOD	SDE	*	R7.5	MSE	M7.5	M6.5	M5.5
		0	0	0	0	0	0	0	0

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

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The screenshot shows the 8085 Simulator interface with the following components:

- Assembler Table:**

* Address	Label	Mnemonics	Hexcode	Bytes	M-Cycles	T-States
✓ 0000		LXI H,3000	21	3	3	10
0001			00			
0002			30			
✓ 0003		MOV A,M	7E	1	2	7
✓ 0004		INX H	23	1	1	6
✓ 0005		MOV B,M	46	1	2	7
✓ 0006		CMP B	B8	1	1	4
✓ 0007		JC 200B	DA	3	3	10
0008			0B			
0009			20			
✓ 000A		MOV A,B	78	1	1	4
✓ 000B		INX H	23	1	1	6
✓ 000C		MOV M,A	77	1	2	7
✓ 000D		HLT	76	1	2	5
- Simulate Panel:**

Start From → 0000

Run all At a Time Step By Step
- Memory Editor Panel:**

Memory Range: 0000 ---- FFFF

Memory Address	Value
0000	21
0002	30
0003	7E
0004	23
0005	46
0006	B8
0007	DA
0008	0B
0009	20
000A	78
000B	23
000C	77
000D	76
3000	24
3001	16
3002	16

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

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b) Find the larger out of two numbers.

8085 Simulator - X:\Documents\worksheet\MPI\ws9(find smaller n0.)

File Edit Tools Settings Simulation Subroutine View Load Sample Program Help

Editor Assembler

8085 Assembly Language Editor

Assembler Disassembler

```
#BEGIN 0000H
LXI H,3000H
MOV A,M
INX H
MOV B,M
CMP B
JNC 200BH
MOV A,B
INX H
MOV M,A
HLT

#ORG 3000H
#DB 14H,18H
```

Autocorrect Assemble

Registers Memory Devices

Registers :

Register	Value	7	6	5	4	3	2	1	0
Accumulator	18	0	0	0	1	1	0	0	0
Register B	18	0	0	0	1	1	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	30	0	0	1	1	0	0	0	0
Register L	02	0	0	0	0	0	0	1	0
Memory(M)	18	0	0	0	1	1	0	0	0

Resister	Value	S	Z	*	AC	*	P	*	CY
Flag Resister	85	1	0	0	0	0	1	0	1

Type	Value
Stack Pointer(SP)	0000
Memory Pointer (HL)	3002
Program Status Word(PSW)	1885
Program Counter(PC)	000D
Clock Cycle Counter	63
Instruction Counter	10

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

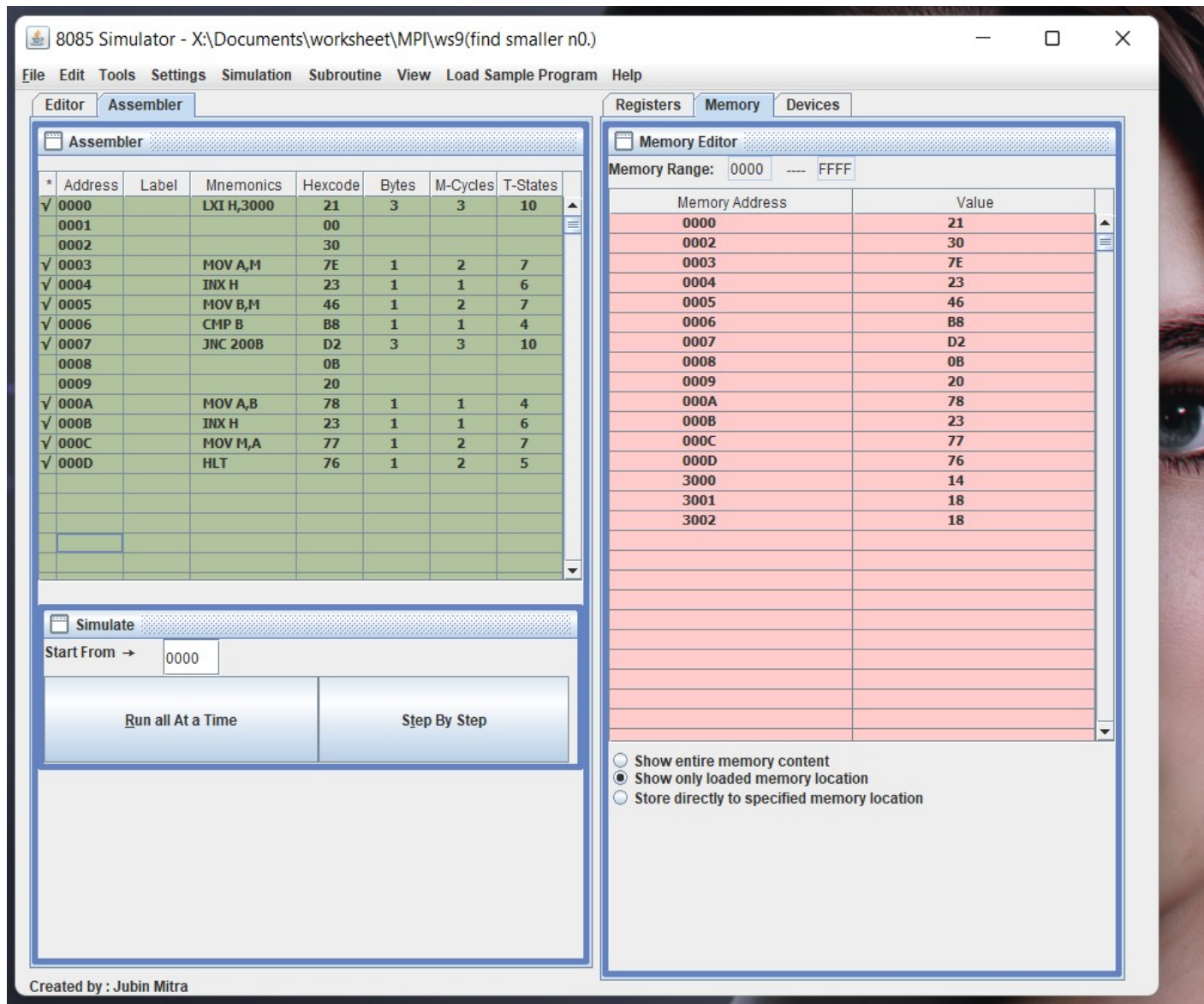
For RIM instruction

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

Created by : Jubin Mitra



8085 Simulator - X:\Documents\worksheet\MPI\ws9(find smaller n0.)

File Edit Tools Settings Simulation Subroutine View Load Sample Program Help

Editor Assembler

Registers Memory Devices

Assembler

* Address	Label	Mnemonics	Hexcode	Bytes	M-Cycles	T-States
✓ 0000		LXI H,3000	21	3	3	10
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0002			30			
✓ 0003		MOV A,M	7E	1	2	7
✓ 0004		INX H	23	1	1	6
✓ 0005		MOV B,M	46	1	2	7
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✓ 0007		JNC 200B	D2	3	3	10
0008			0B			
0009			20			
✓ 000A		MOV A,B	78	1	1	4
✓ 000B		INX H	23	1	1	6
✓ 000C		MOV M,A	77	1	2	7
✓ 000D		HLT	76	1	2	5

Simulate

Start From → 0000

Run all At a Time Step By Step

Memory Editor

Memory Range: 0000 ---- FFFF

Memory Address	Value
0000	21
0002	30
0003	7E
0004	23
0005	46
0006	B8
0007	D2
0008	0B
0009	20
000A	78
000B	23
000C	77
000D	76
3000	14
3001	18
3002	18

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

Created by : Jubin Mitra

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.			