

Worksheet 2.3 or 6

Student Name: Vivek Kumar

UID: 21BCS8129

Branch: BE-CSE (LEET)

Section/Group: ON20BCS-809/A

Semester: 4th Sem

Date of Performance: 01/04/2022

Subject Name: MPI Lab

Subject Code: 22E-20CSP-253

1. Aim/Overview of the practical:

- Shift Left 8-bit number by 1bity.
- Shift Left 8-bit number by 2bit.

2. Task to be done:

Write an 8085 Microprocessor program to shift left of 8-bit number by 1bt and 2bit.

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

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

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

Algorithm to find left shift of 8-bit number by 1bit without Carry:

- Load the data to the Accumulator from 2000 memory address.
- Do the left shift using RLC.
- Store the 1bit left shifted value from Accumulator to 2001 memory location.
- End the execution using HLT.

Algorithm to find left shift of 8-bit number by 1bit with Carry:

- Load the data to the Accumulator from 2000 memory address.
- Set the carry flag as 1 using STC.
- Do the left shift with carry using RAL.
- Store the 1bit left shifted value from Accumulator to 2001 memory location.
- End the execution using HLT.

Algorithm to find left shift of 8-bit number by 2bit without Carry:

- Load the data to the Accumulator from 2000 memory address.
- Do the left shift with carry using RLC 2 times.
- Store the 1bit left shifted value from Accumulator to 2001 memory location.
- End the execution using HLT.

5. Description/ Code:

Program to find the left shift of 8-bit number by 1bit without carry:

```
# ORG 1000H
    LDA 2000
    RLC
    STA 2001
    HLT
# ORG 2000H
# DB 55
```

Program to find the left shift of 8-bit number by 1bit with carry:

```
# ORG 1000H
    LDA 2000
    STC
    RAL
    STA 2001
    HLT
# ORG 2000H
#DB 55
```

Program to find the left shift of 8-bit number by 2bit without carry:

```
# ORG 1000H
    LDA 2000
    RLC
    RLC
    STA 2001
    HLT
# ORG 2000H
#DB 55
```

6. Result/Output/Writing Summary:

Program to find the left shift of 8-bit number by 1bit without carry:

8085 Simulator

File Edit Tools Settings Simulation Subroutine View Load Sample Program Help

Editor Assembler

8085 Assembly Language Editor

Assembler Disassembler

```
# ORG 1000H
    LDA 2000
    RLC
    STA 2001
    HLT

# ORG 2000H
# DB 55
```

Autocorrect Assemble

Registers Memory Devices

Registers :

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

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8085 Simulator

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Editor Assembler

Assembler

* Address	Label	Mnemonics	Hexcode	Bytes	M-Cycles	T-States
✓ 1000		LDA 2000	3A	3	4	13
1001			00			
1002			20			
✓ 1003		RLC	07	1	1	4
✓ 1004		STA 2001	32	3	4	13
1005			01			
1006			20			
✓ 1007		HLT	76	1	2	5

Simulate

Start From → 1000

Run all At a Time Step By Step

Registers Memory Devices

Memory Editor

Memory Range: 0000 ---- FFFF

Memory Address	Value
1000	3A
1002	20
1003	07
1004	32
1005	01
1006	20
1007	76
2000	55

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

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8085 Simulator

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Editor Assembler

Assembler

* Address	Label	Mnemonics	Hexcode	Bytes	M-Cycles	T-States
✓ 1000		LDA 2000	3A	3	4	13
1001			00			
1002			20			
✓ 1003		RLC	07	1	1	4
✓ 1004		STA 2001	32	3	4	13
1005			01			
1006			20			
✓ 1007		HLT	76	1	2	5

Simulate

Start From → 1000

Backward Stop Forward

Registers **Memory** **Devices**

Registers :

Register	Value	7	6	5	4	3	2	1	0
Accumulator	55	0	1	0	1	0	1	0	1
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)	5500
Program Counter(PC)	1003
Clock Cycle Counter	13
Instruction Counter	1

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

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Editor Assembler

Assembler

* Address	Label	Mnemonics	Hexcode	Bytes	M-Cycles	T-States
✓ 1000		LDA 2000	3A	3	4	13
1001			00			
1002			20			
✓ 1003		RLC	07	1	1	4
✓ 1004		STA 2001	32	3	4	13
1005			01			
1006			20			
✓ 1007		HLT	76	1	2	5

Simulate

Start From → 1000

Backward Stop Forward

Registers **Memory** **Devices**

Registers :

Register	Value	7	6	5	4	3	2	1	0
Accumulator	AA	1	0	1	0	1	0	1	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)	AA00
Program Counter(PC)	1004
Clock Cycle Counter	17
Instruction Counter	2

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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8085 Simulator

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Editor Assembler

Assembler

* Address	Label	Mnemonics	Hexcode	Bytes	M-Cycles	T-States
✓ 1000		LDA 2000	3A	3	4	13
1001			00			
1002			20			
✓ 1003		RLC	07	1	1	4
✓ 1004		STA 2001	32	3	4	13
1005			01			
1006			20			
✓ 1007		HLT	76	1	2	5

Simulate

Start From → 1000

Backward Stop Forward

Registers **Memory** **Devices**

Registers :

Register	Value	7	6	5	4	3	2	1	0
Accumulator	AA	1	0	1	0	1	0	1	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)	AA00
Program Counter(PC)	1007
Clock Cycle Counter	30
Instruction Counter	3

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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Editor Assembler

Assembler

* Address	Label	Mnemonics	Hexcode	Bytes	M-Cycles	T-States
✓ 1000		LDA 2000	3A	3	4	13
1001			00			
1002			20			
✓ 1003		RLC	07	1	1	4
✓ 1004		STA 2001	32	3	4	13
1005			01			
1006			20			
✓ 1007		HLT	76	1	2	5

Simulate

Start From → 1000

Backward Stop Forward

Registers **Memory** **Devices**

Memory Editor

Memory Range: 0000 ---- FFFF

Memory Address	Value
1000	3A
1002	20
1003	07
1004	32
1005	01
1006	20
1007	76
2000	55
2001	AA

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

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Program to find the left shift of 8-bit number by 1bit with carry:

8085 Simulator

File Edit Tools Settings Simulation Subroutine View Load Sample Program Help

Editor Assembler

8085 Assembly Language Editor

Assembler Disassembler

```

# ORG 1000H
LDA 2000
STC
RAL
STA 2001
HLT
# ORG 2000H
# DB 55
                    
```

Autocorrect Assemble

Registers Memory Devices

Registers :

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)	1000
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

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Editor Assembler

Assembler

* Address	Label	Mnemonics	Hexcode	Bytes	M-Cycles	T-States
✓ 1000		LDA 2000	3A	3	4	13
1001			00			
1002			20			
✓ 1003		STC	37	1	1	4
✓ 1004		RAL	17	1	1	4
✓ 1005		STA 2001	32	3	4	13
1006			01			
1007			20			
✓ 1008		HLT	76	1	2	5

Simulate

Start From → 1000

Run all At a Time Step By Step

Registers Memory Devices

Memory Editor

Memory Range: 0000 ---- FFFF

Memory Address	Value
1000	3A
1002	20
1003	37
1004	17
1005	32
1006	01
1007	20
1008	76
2000	55

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

Created by : Jubin Mitra

8085 Simulator

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Editor Assembler

Assembler

* Address	Label	Mnemonics	Hexcode	Bytes	M-Cycles	T-States
✓ 1000		LDA 2000	3A	3	4	13
1001			00			
1002			20			
✓ 1003		STC	37	1	1	4
✓ 1004		RAL	17	1	1	4
✓ 1005		STA 2001	32	3	4	13
1006			01			
1007			20			
✓ 1008		HLT	76	1	2	5

Simulate

Start From → 1000

Backward Stop Forward

Registers **Memory** **Devices**

Registers :

Register	Value	7	6	5	4	3	2	1	0
Accumulator	55	0	1	0	1	0	1	0	1
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

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

Type	Value
Stack Pointer(SP)	0000
Memory Pointer (HL)	0000
Program Status Word(PSW)	5500
Program Counter(PC)	1003
Clock Cycle Counter	13
Instruction Counter	1

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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8085 Simulator

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Editor Assembler

Assembler

* Address	Label	Mnemonics	Hexcode	Bytes	M-Cycles	T-States
✓ 1000		LDA 2000	3A	3	4	13
1001			00			
1002			20			
✓ 1003		STC	37	1	1	4
✓ 1004		RAL	17	1	1	4
✓ 1005		STA 2001	32	3	4	13
1006			01			
1007			20			
✓ 1008		HLT	76	1	2	5

Simulate

Start From → 1000

Backward Stop Forward

Registers **Memory** **Devices**

Registers :

Register	Value	7	6	5	4	3	2	1	0
Accumulator	55	0	1	0	1	0	1	0	1
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

Resister	Value	S	Z	*	AC	*	P	*	CY
Flag Resister	01	0	0	0	0	0	0	0	1

Type	Value
Stack Pointer(SP)	0000
Memory Pointer (HL)	0000
Program Status Word(PSW)	5501
Program Counter(PC)	1004
Clock Cycle Counter	17
Instruction Counter	2

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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Editor Assembler

Assembler

* Address	Label	Mnemonics	Hexcode	Bytes	M-Cycles	T-States
✓ 1000		LDA 2000	3A	3	4	13
✓ 1001			00			
✓ 1002			20			
✓ 1003		STC	37	1	1	4
✓ 1004		RAL	17	1	1	4
✓ 1005		STA 2001	32	3	4	13
✓ 1006			01			
✓ 1007			20			
✓ 1008		HLT	76	1	2	5

Simulate

Start From → 1000

Backward Stop Forward

Registers Memory Devices

Registers :

Register	Value	7	6	5	4	3	2	1	0
Accumulator	AB	1	0	1	0	1	0	1	1
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

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

Type	Value
Stack Pointer(SP)	0000
Memory Pointer (HL)	0000
Program Status Word(PSW)	AB00
Program Counter(PC)	1005
Clock Cycle Counter	21
Instruction Counter	3

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

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Editor Assembler

Assembler

* Address	Label	Mnemonics	Hexcode	Bytes	M-Cycles	T-States
✓ 1000		LDA 2000	3A	3	4	13
✓ 1001			00			
✓ 1002			20			
✓ 1003		STC	37	1	1	4
✓ 1004		RAL	17	1	1	4
✓ 1005		STA 2001	32	3	4	13
✓ 1006			01			
✓ 1007			20			
✓ 1008		HLT	76	1	2	5

Simulate

Start From → 1000

Backward Stop Forward

Registers Memory Devices

Registers :

Register	Value	7	6	5	4	3	2	1	0
Accumulator	AB	1	0	1	0	1	0	1	1
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

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

Type	Value
Stack Pointer(SP)	0000
Memory Pointer (HL)	0000
Program Status Word(PSW)	AB00
Program Counter(PC)	1008
Clock Cycle Counter	34
Instruction Counter	4

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

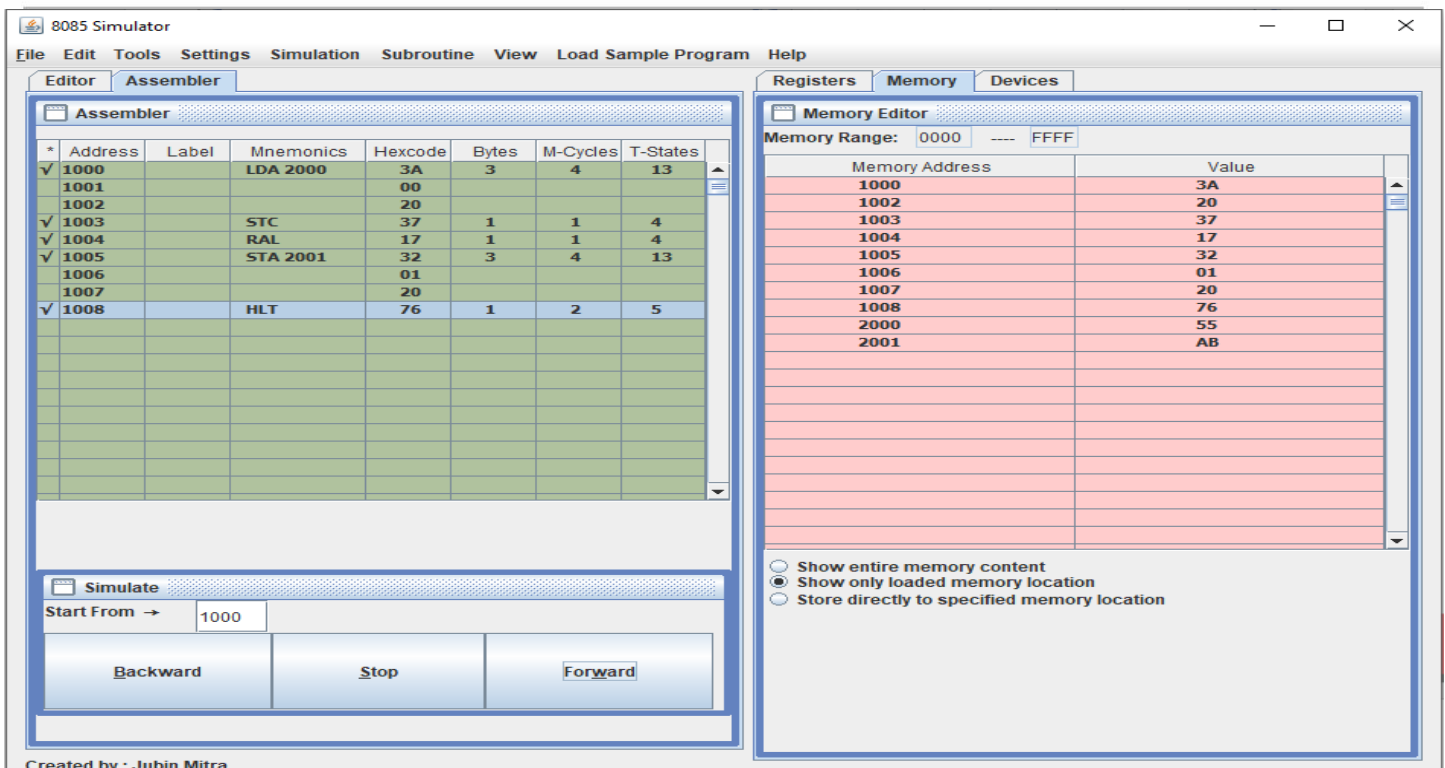
For RIM instruction

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

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Editor Assembler

Assembler

* Address	Label	Mnemonics	Hexcode	Bytes	M-Cycles	T-States
✓ 1000		LDA 2000	3A	3	4	13
1001			00			
1002			20			
✓ 1003		STC	37	1	1	4
✓ 1004		RAL	17	1	1	4
✓ 1005		STA 2001	32	3	4	13
1006			01			
1007			20			
✓ 1008		HLT	76	1	2	5

Simulate

Start From → 1000

Backward Stop Forward

Registers Memory Devices

Memory Editor

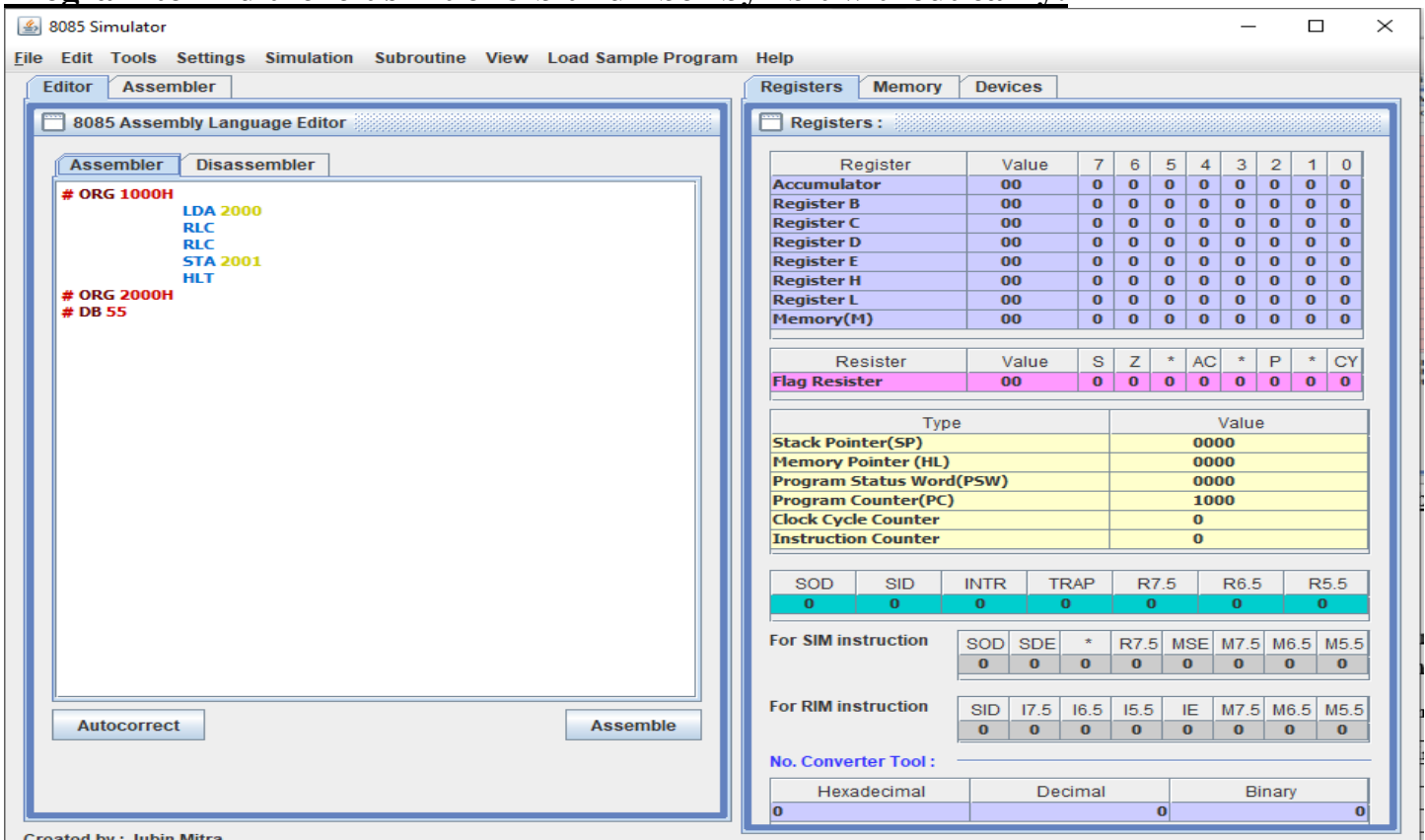
Memory Range: 0000 --- FFFF

Memory Address	Value
1000	3A
1002	20
1003	37
1004	17
1005	32
1006	01
1007	20
1008	76
2000	55
2001	AB

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

Created by : Jubin Mitra

Program to find the left shift of 8-bit number by 2bit without carry:



8085 Simulator

File Edit Tools Settings Simulation Subroutine View Load Sample Program Help

Editor Assembler

8085 Assembly Language Editor

Assembler Disassembler

```

# ORG 1000H
LDA 2000
RLC
STA 2001
HLT

# ORG 2000H
# DB 55
  
```

Autocorrect Assemble

Registers

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)	1000
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

Created by : Jubin Mitra



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
✓ 1000		LDA 2000	3A	3	4	13
1001			00			
1002			20			
✓ 1003		RLC	07	1	1	4
✓ 1004		RLC	07	1	1	4
✓ 1005		STA 2001	32	3	4	13
1006			01			
1007			20			
✓ 1008		HLT	76	1	2	5

Simulate

Start From → 1000

Run all At a Time Step By Step

Registers Memory Devices

Memory Editor

Memory Range: 0000 ---- FFFF

Memory Address	Value
1000	3A
1002	20
1003	07
1004	07
1005	32
1006	01
1007	20
1008	76
2000	55

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

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Editor Assembler

Assembler

* Address	Label	Mnemonics	Hexcode	Bytes	M-Cycles	T-States
✓ 1000		LDA 2000	3A	3	4	13
1001			00			
1002			20			
✓ 1003		RLC	07	1	1	4
✓ 1004		RLC	07	1	1	4
✓ 1005		STA 2001	32	3	4	13
1006			01			
1007			20			
✓ 1008		HLT	76	1	2	5

Simulate

Start From → 1000

Backward Stop Forward

Registers Memory Devices

Registers :

Register	Value	7	6	5	4	3	2	1	0
Accumulator	55	0	1	0	1	0	1	0	1
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)	5500
Program Counter(PC)	1003
Clock Cycle Counter	13
Instruction Counter	1

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

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Editor Assembler

Assembler

* Address	Label	Mnemonics	Hexcode	Bytes	M-Cycles	T-States
✓ 1000		LDA 2000	3A	3	4	13
✓ 1001			00			
✓ 1002			20			
✓ 1003		RLC	07	1	1	4
✓ 1004		RLC	07	1	1	4
✓ 1005		STA 2001	32	3	4	13
✓ 1006			01			
✓ 1007			20			
✓ 1008		HLT	76	1	2	5

Simulate

Start From → 1000

Backward Stop Forward

Registers Memory Devices

Registers :

Register	Value	7	6	5	4	3	2	1	0
Accumulator	AA	1	0	1	0	1	0	1	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

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

Type	Value
Stack Pointer(SP)	0000
Memory Pointer (HL)	0000
Program Status Word(PSW)	AA00
Program Counter(PC)	1004
Clock Cycle Counter	17
Instruction Counter	2

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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Editor Assembler

Assembler

* Address	Label	Mnemonics	Hexcode	Bytes	M-Cycles	T-States
✓ 1000		LDA 2000	3A	3	4	13
✓ 1001			00			
✓ 1002			20			
✓ 1003		RLC	07	1	1	4
✓ 1004		RLC	07	1	1	4
✓ 1005		STA 2001	32	3	4	13
✓ 1006			01			
✓ 1007			20			
✓ 1008		HLT	76	1	2	5

Simulate

Start From → 1000

Backward Stop Forward

Registers Memory Devices

Registers :

Register	Value	7	6	5	4	3	2	1	0
Accumulator	55	0	1	0	1	0	1	0	1
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

Resister	Value	S	Z	*	AC	*	P	*	CY
Flag Resister	01	0	0	0	0	0	0	0	1

Type	Value
Stack Pointer(SP)	0000
Memory Pointer (HL)	0000
Program Status Word(PSW)	5501
Program Counter(PC)	1005
Clock Cycle Counter	21
Instruction Counter	3

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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Editor Assembler

Assembler

* Address	Label	Mnemonics	Hexcode	Bytes	M-Cycles	T-States
✓ 1000		LDA 2000	3A	3	4	13
✓ 1001			00			
✓ 1002			20			
✓ 1003		RLC	07	1	1	4
✓ 1004		RLC	07	1	1	4
✓ 1005		STA 2001	32	3	4	13
✓ 1006			01			
✓ 1007			20			
✓ 1008		HLT	76	1	2	5

Simulate

Start From → 1000

Backward Stop Forward

Registers **Memory** **Devices**

Registers :

Register	Value	7	6	5	4	3	2	1	0
Accumulator	55	0	1	0	1	0	1	0	1
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	01	0	0	0	0	0	0	0	1

Type	Value
Stack Pointer(SP)	0000
Memory Pointer (HL)	0000
Program Status Word(PSW)	5501
Program Counter(PC)	1008
Clock Cycle Counter	34
Instruction Counter	4

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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8085 Simulator

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Editor Assembler

Assembler

* Address	Label	Mnemonics	Hexcode	Bytes	M-Cycles	T-States
✓ 1000		LDA 2000	3A	3	4	13
✓ 1001			00			
✓ 1002			20			
✓ 1003		RLC	07	1	1	4
✓ 1004		RLC	07	1	1	4
✓ 1005		STA 2001	32	3	4	13
✓ 1006			01			
✓ 1007			20			
✓ 1008		HLT	76	1	2	5

Simulate

Start From → 1000

Backward Stop Forward

Registers **Memory** **Devices**

Registers :

Register	Value	7	6	5	4	3	2	1	0
Accumulator	55	0	1	0	1	0	1	0	1
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	01	0	0	0	0	0	0	0	1

Type	Value
Stack Pointer(SP)	0000
Memory Pointer (HL)	0000
Program Status Word(PSW)	5501
Program Counter(PC)	1008
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	0

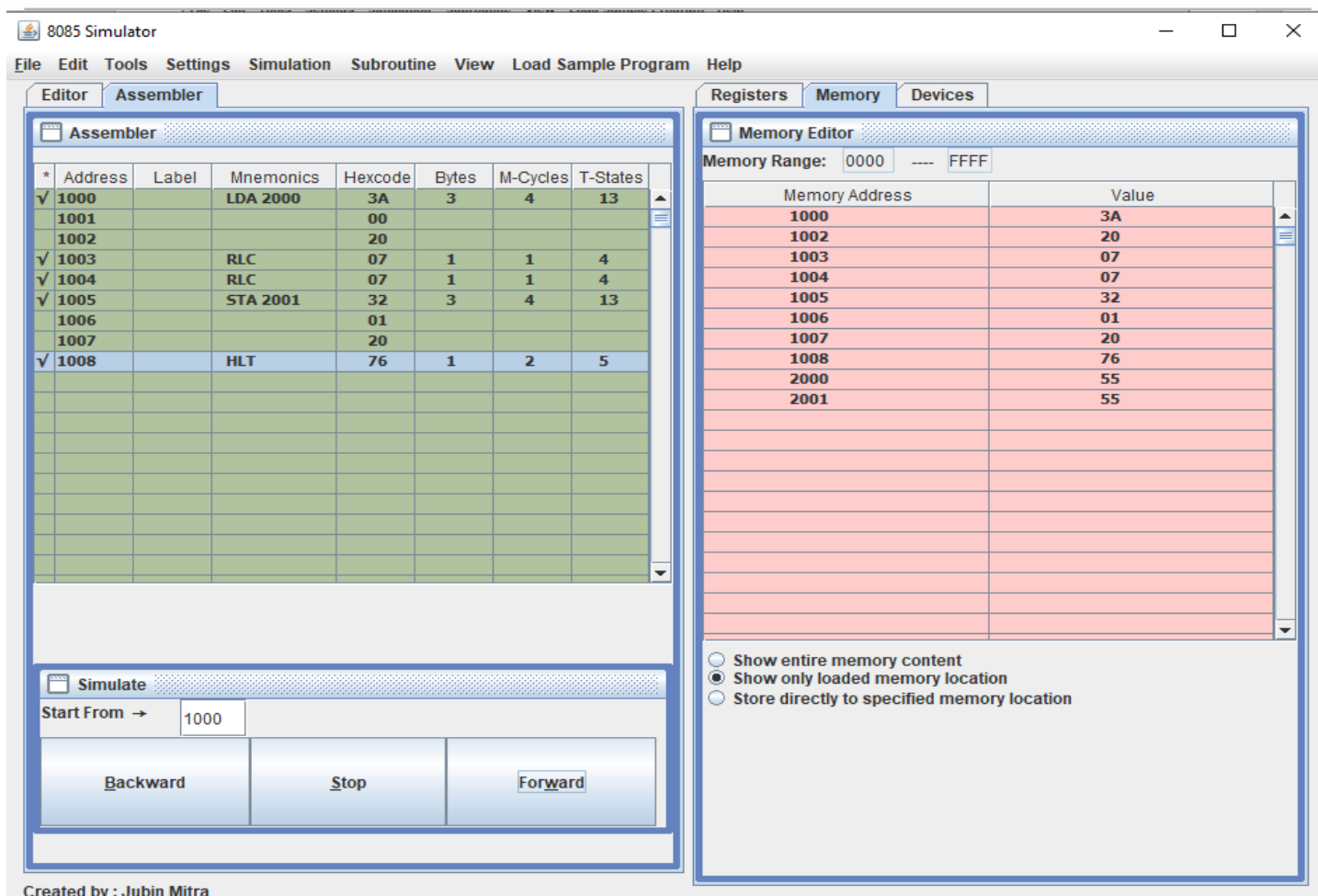
For RIM instruction

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



Learning outcomes (What I have learnt):

1. Learnt to find the 1's complement of 16-bit number.
2. Learn to find the 2's complement of 16-bit number.

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.			