

WORKSHEET- 6

NAME –

UID –

CLASS –

SEMESTER –4th

SUBJECT- MPI Lab

AIM OF THE PRACTICAL

1. Shift Left 8-bit number by 1 bit.
2. Program to Shift Left 8-bit Number by 2 Bit

APPARATUS REQUIRED

1. Jubin(8085 simulator)
2. Java

CODE OF THE EXPERIMENT(1-Bit left shift)

```
#BEGIN 0000H
```

```
LDA 2500H
```

```
RAL
```

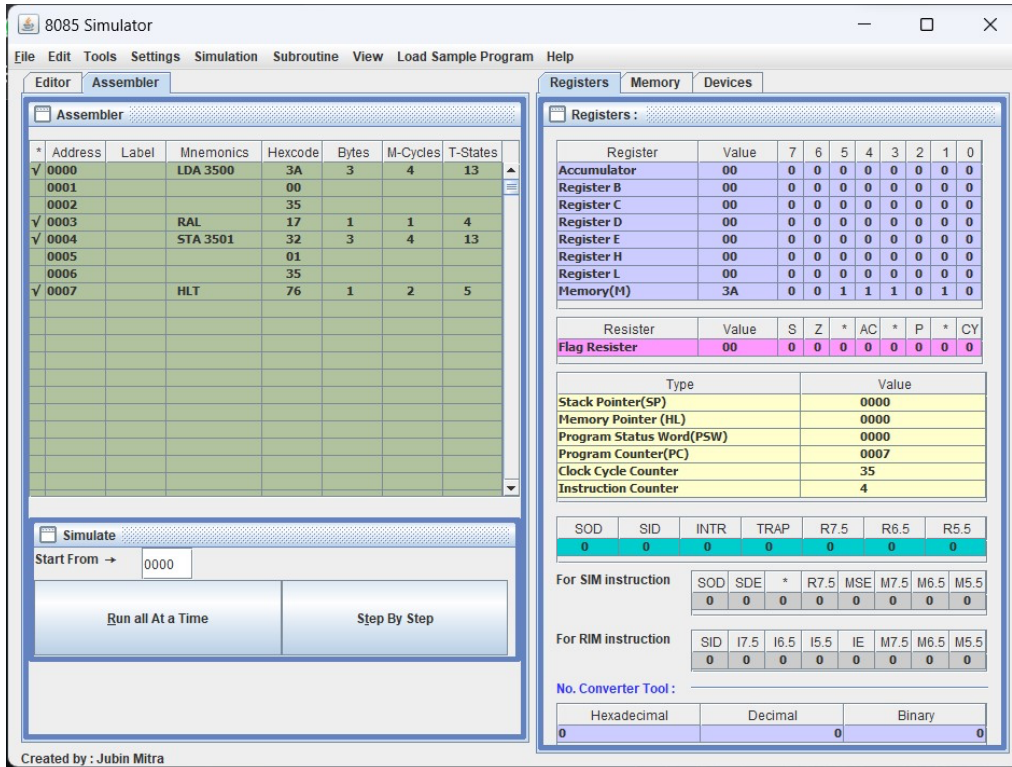
```
STA 2501H
```

```
HLT
```

```
#ORG 2500H
```

```
#DB 42H
```

SCHRENSHOT OF THE OUTPUT



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

- Assembler Window:**

* Address	Label	Mnemonics	Hexcode	Bytes	M-Cycles	T-States
0000		LDA 3500	3A	3	4	13
0001			00			
0002			35			
0003		RAL	17	1	1	4
0004		STA 3501	32	3	4	13
0005			01			
0006			35			
0007		HLT	76	1	2	5
- Registers Window:**

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)	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)	0000
Program Counter(PC)	0007
Clock Cycle Counter	35
Instruction Counter	4
- Simulate Window:**

Start From → 0000

Run all At a Time Step By Step
- Registers - Memory - Devices Window:**

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

Screenshot of Memory

8085 Simulator

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		LDA 3500	3A	3	4	13
0001			00			
0002			35			
√ 0003		RAL	17	1	1	4
√ 0004		STA 3501	32	3	4	13
0005			01			
0006			35			
√ 0007		HLT	76	1	2	5

Memory Editor

Memory Range: 0000 --- FFFF

Memory Address	Value
0000	3A
0002	35
0003	17
0004	32
0005	01
0006	35
0007	76
2500	19

Simulate

Start From → 0000

Run all At a Time Step By Step

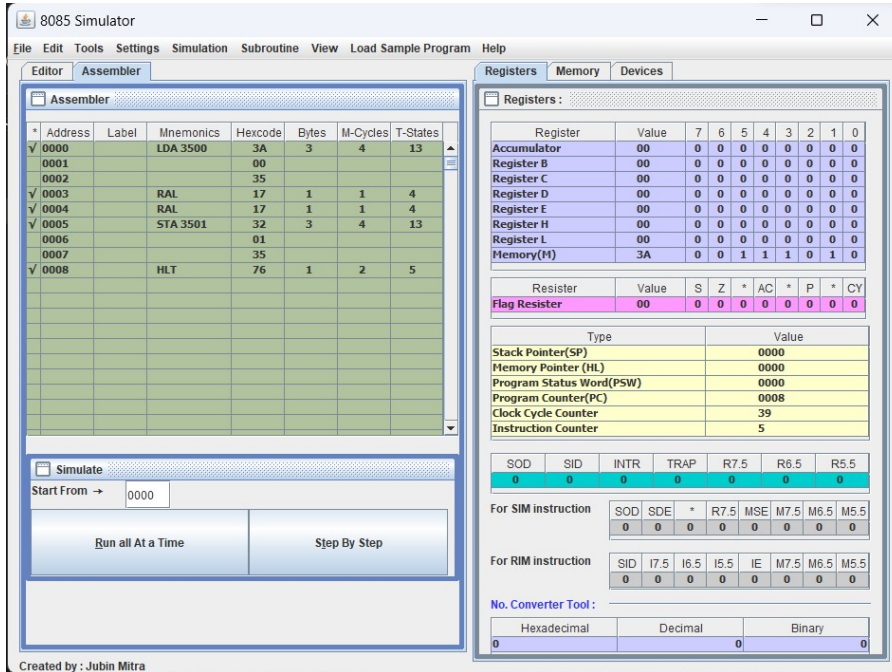
Show entire memory content
 Show only loaded memory location
 Store directly to specified memory location

Created by : Jubin Mitra

CODE OF THE EXPERIMENT(2-Bit left shift)

```
#BEGIN 0000H
LDA 2500H
RAL
RAL
STA 2501H
HLT
#ORG 2500H
#DB 42H
```

SCHRENSHOT OF THE OUTPUT



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

- Assembler Window:**

Address	Label	Mnemonics	Hexcode	Bytes	M-Cycles	T-States
0000		LDA 3500	3A	3	4	13
0001			00			
0002			35			
0003		RAL	17	1	1	4
0004		RAL	17	1	1	4
0005		STA 3501	32	3	4	13
0006			01			
0007			35			
0008		HLT	76	1	2	5
- Registers Window:**

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(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	0	0	0

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

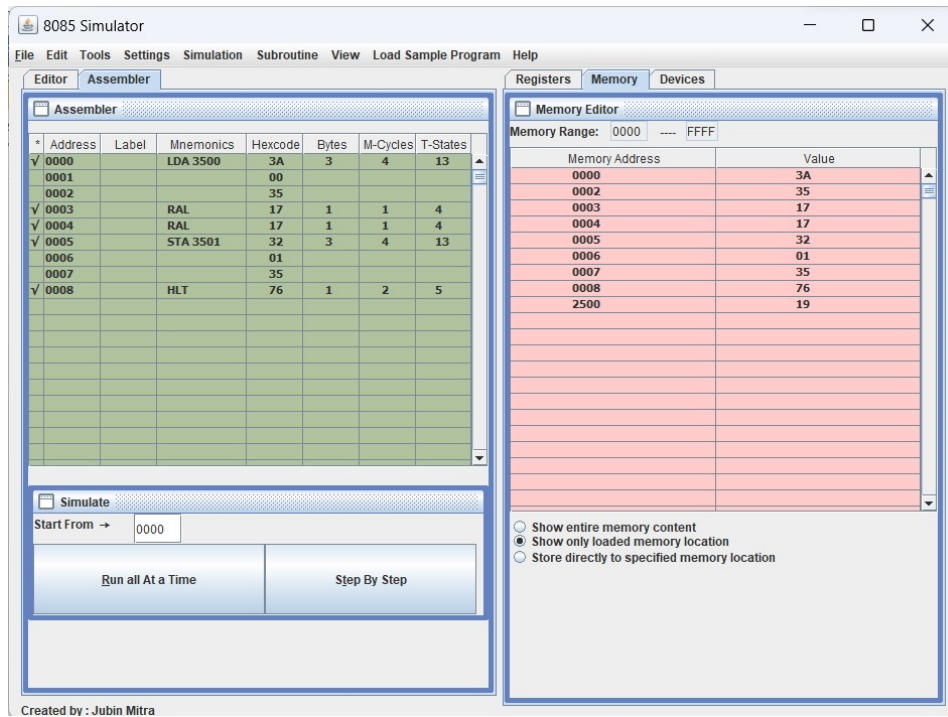
For SIM instruction							
SOD	SDE	*	R7.5	MSE	M7.5	M6.5	M5.5
0	0	0	0	0	0	0	0

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

Screenshot of Memory



LEARNING OUTCOMES

1. Learned about 8085 simulator.
2. Learned about left shift and right shift operators.