

# MIT ASSIGNMENT – 2

1. Write a program for one's complement of 8-bit number.

**;Program1**

**;Data present at 4000h – 12 (in decimal)**

lda 4000h

cma

sta 4001h

hlt

Data	Stack	KeyPad	Memory	I/O Ports
Start	4000h	OK		
Address (Hex)	Address	Data		
4000	16384	12		
4001	16385	243		
4002	16386	0		
4003	16387	0		
4004	16388	0		
4005	16389	0		
4006	16390	0		
4007	16391	0		
4008	16392	0		
4009	16393	0		
400A	16394	0		
400B	16395	0		

Line No	Assembler Message
0	Program assembled successfully

2. Write a program for two's complement of 8-bit number.

**;Program2**

**;Data present at 3000h – 12 (in decimal)**

lda 3000h

cma

sta 3001h

adi 01

sta 3002H

hlt



Data
Stack
KeyPad
Memory
I/O Ports

Start

Address (Hex)	Address	Data
3000	12288	0
3001	12289	7
3002	12290	2
3003	12291	3
3004	12292	4
3005	12293	5
3006	12294	0
3007	12295	0
3008	12296	0
3009	12297	0
300A	12298	0
300B	12299	0

Line No    Assembler Message

0            Program assembled successfully

4. Write a program to shift 8-bit no by three bits left. Assume data is in register C.

**;Program4**

mvi c,07h

**;-----**

mov a,c

rlc

rlc

rlc

sta 3002h

hlt

Data
Stack
KeyPad
Memory
I/O Ports

Start

Address (Hex)	Address	Data
3000	12288	0
3001	12289	7
3002	12290	56
3003	12291	0
3004	12292	0
3005	12293	0
3006	12294	0
3007	12295	0
3008	12296	0
3009	12297	0
300A	12298	0
300B	12299	0

Line No    Assembler Message

0            Program assembled successfully

5. Write a program to shift 8-bit data four bits right. Assume data is in register C.

**;Program5**

mvi c,10h

**;-----**

mov a,c

rrc

rrc

rrc

rrc

sta 3002h

hlt

Data	Stack	KeyPad	Memory	I/O Ports
Start	3000h	OK		
Address (Hex)	Address	Data		
3000	12288	0		
3001	12289	0		
3002	12290	1		
3003	12291	0		
3004	12292	0		
3005	12293	0		
3006	12294	0		
3007	12295	0		
3008	12296	0		
3009	12297	0		
300A	12298	0		
300B	12299	0		

Line No	Assembler Message
0	Program assembled successfully

6. Write a Program to Multiply Two 8-bit Numbers.

**;Program6**

**;Data present at 3000h and 3001h – 7 and 11 (in decimal) respectively**

lda 3000h

mov e,a

mvi d,00h

lda 3001h

mov c,a

lxi h,0000h

loop: dad d

dcr c

jnz loop

shld 3002h

hlt

Data
 Stack
 Keypad
 **Memory**
 I/O Ports

Start

Address (Hex)	Address	Data
3000	12288	7
3001	12289	11
3002	12290	77
3003	12291	0
3004	12292	0
3005	12293	0
3006	12294	0
3007	12295	0
3008	12296	0
3009	12297	6
300A	12298	0
300B	12299	0

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**Line No** **Assembler Message**

0      Program assembled successfully

**7. Write a Program to find Largest of two 8-bit numbers.**

**;Program7**

**;Larger value is stored in 2000h**

mvi b,02h

mvi c,05h

mov a,b

cmp c

jnc noCarry

mov a,c

noCarry: sta 2000h

hlt

Data
 Stack
 Keypad
 **Memory**
 I/O Ports

Start

Address (Hex)	Address	Data
2000	8192	5
2001	8193	0
2002	8194	0
2003	8195	0
2004	8196	0
2005	8197	0
2006	8198	0
2007	8199	0
2008	8200	0
2009	8201	0
200A	8202	0
200B	8203	0

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**Line No** **Assembler Message**

0      Program assembled successfully