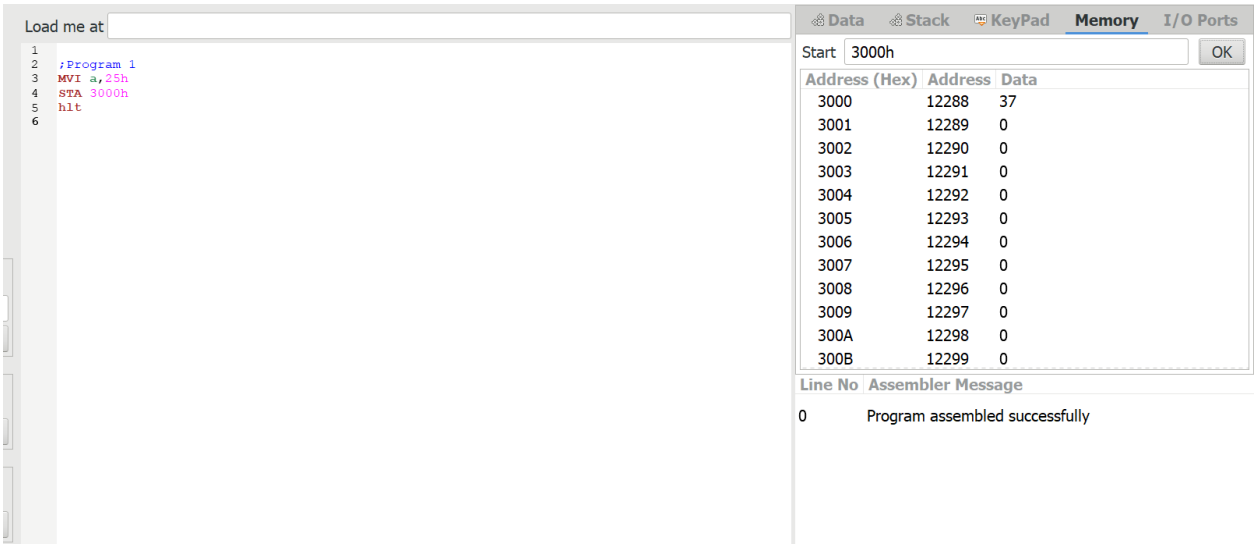
MIT ASSIGNMENT – 1

Q1:Store the data byte 25H into memory location 3000H

```
;Program 1
MVI a,25h
STA 3000h
hlt
```



Q2: Write a program to add two 8-bit numbers. Store the result at one memory location.

```
;Program 2
MVI a,25h
STA 3000h
MVI a,32h
STA 3001h
MVI a,30h
STA 3005h
;------------ADDITION------------
LDA 3000h
MOV b,a
LDA 3001h
ADD b
STA 3002h
hlt
```

Q3: Write a program to subtract two 8-bit numbers. Store the result at one memory location.

;Program 3

MVI a,37h

STA 3000h

MVI a,25h

STA 3001h

MVI a,30h

STA 3005h

;-----------SUBTRACTION-----------

LDA 3001h

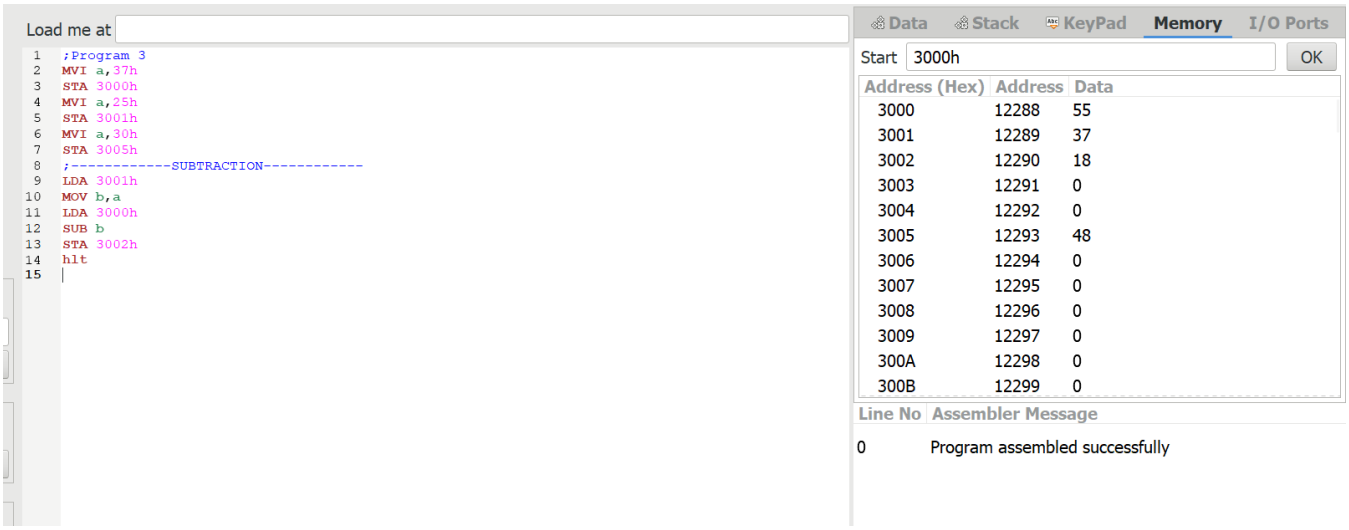
MOV b,a

LDA 3000h

SUB b

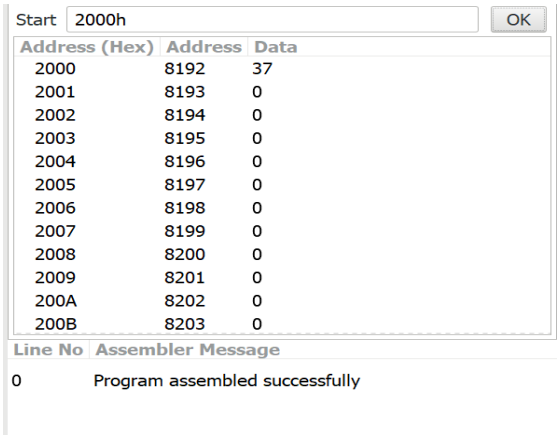
STA 3002h

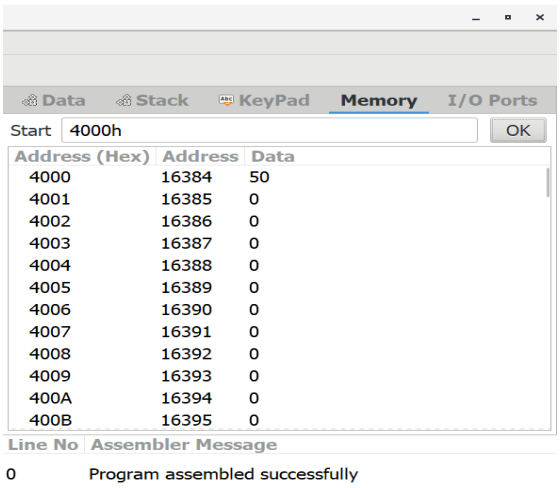
hlt



Q4: Exchange the contents of memory locations 2000H and 4000H

```
;Program 4
MVI a,25h
STA 4000h
MVI a,32h
STA 2000h
;------------------------------
LDA 4000h
MOV b,a
LDA 2000h
STA 4000h
MOV a,b
STA 2000h
hlt
```





Q5: Write a program to add two 16 bit numbers. Numbers are stored in four consecutive memory location as 8-bit numbers. (Use instruction ADC)

```
;Program 5
LDA 00h
```

MOV B, A

LDA 02h

ADD B

STA 04h

LDA 01h

MOV C, A

LDA 03h

ADC C

STA 05h

hlt

Q6: Write a program to subtract two 16 bit numbers. Numbers are stored in four consecutive memory location as 8-bit numbers. (Use instruction SBB)

;Program 6

LDA 02h

MOV B, A

LDA 00h

SUB B

STA 04h

LDA 03h

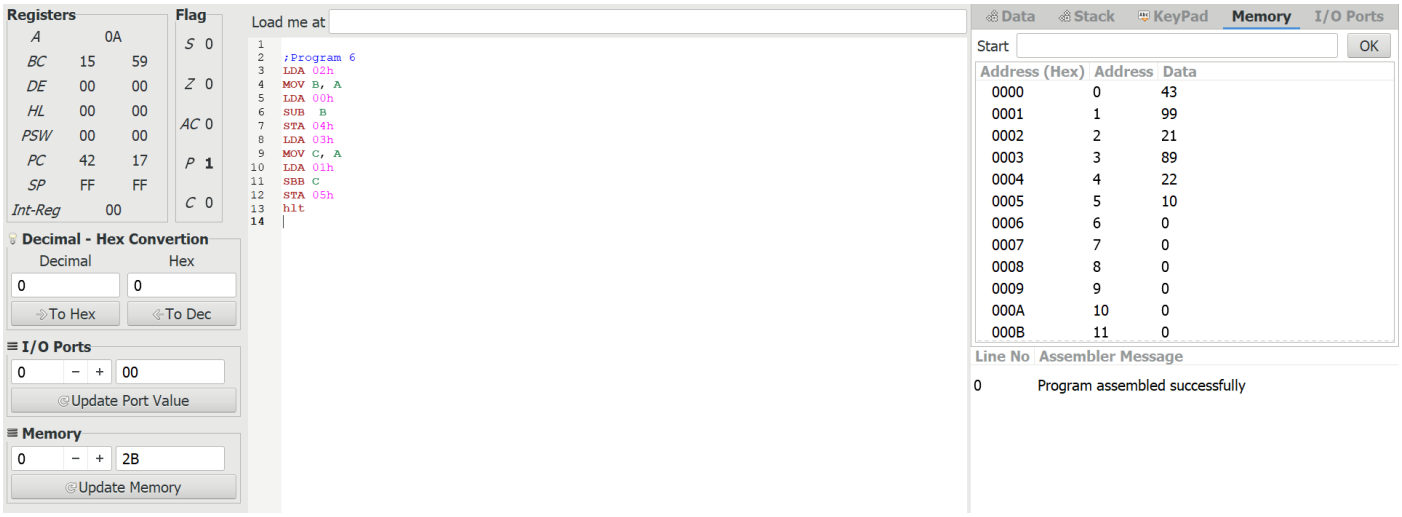
MOV C, A

LDA 01h

SBB C

STA 05h

hlt


Registers
A 0A
BC 15 59
DE 00 00
HL 00 00
PSW 00 00
PC 42 17
SP FF FF
Int-Reg 00
Flag
S 0
Z 0
AC 0
P 1
C 0
Decimal - Hex Convertion
Decimal
Hex
0
0
To Hex
To Dec
I/O Ports
0
00
Update Port Value
Memory
0
2B
Update Memory
Load me at
1
2 ;Program 6
3 LDA 02h
4 MOV B, A
5 LDA 00h
6 SUB B
7 STA 04h
8 LDA 03h
9 MOV C, A
10 LDA 01h
11 SBB C
12 STA 05h
13 hlt
14
Data
Stack
KeyPad
Memory
I/O Ports
Start
OK
Address (Hex) Address Data
0000 0 43
0001 1 99
0002 2 21
0003 3 89
0004 4 22
0005 5 10
0006 6 0
0007 7 0
0008 8 0
0009 9 0
000A 10 0
000B 11 0
Line No Assembler Message
0 Program assembled successfully