EXPERIMENT - 2

Computer Organization and Architecture

Aim

Write an assembly language program to add two numbers:
a) numbers are of 8 - bit
b) numbers are of 16 - bit

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EXPERIMENT – 2

Aim:

Write an assembly language program to add two numbers:

a) numbers are of 8 - bit
b) numbers are of 16 - bit

Source Codes:

A) Adding 8 – bit numbers

Source Code

```
; Adding 8 – bit numbers

jmp start

;data


;code
start: MVI A, 24
MVI C, 34
ADD C
MOV H, A


hlt
```

```
; Adding 8 – bit numbers

jmp start

;data


;code
start: MVI A, 24H
MVI C, 34H
ADD C
MOV H, A


hlt
```

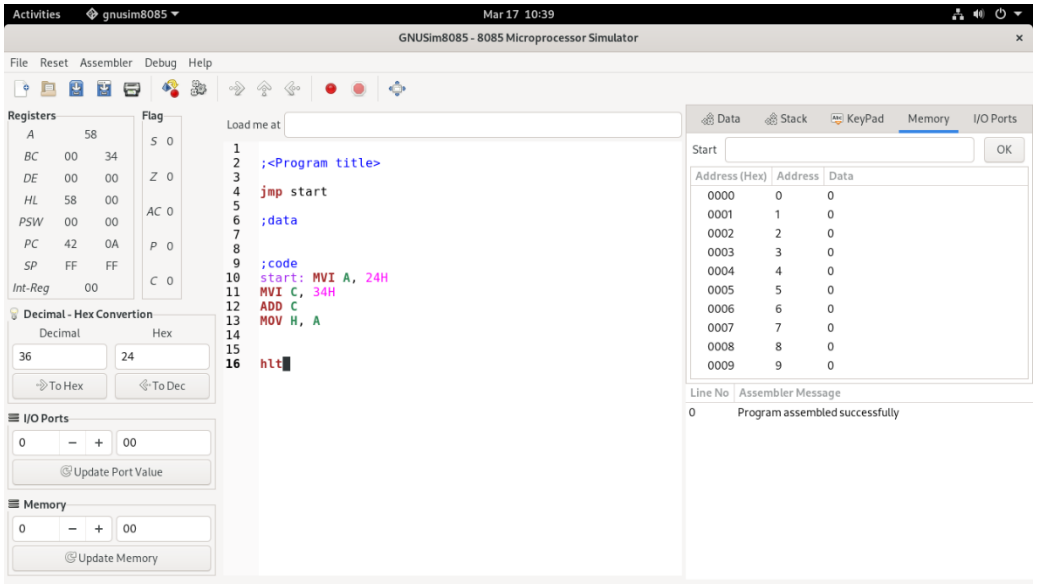
A) Output:

Registers

A		3A
BC	00	22
DE	00	00
HL	3A	00
PSW	00	00
PC	42	0A
SP	FF	FF
Int-Reg		00

Flag

S	0
Z	0
AC	0
P	1
C	0

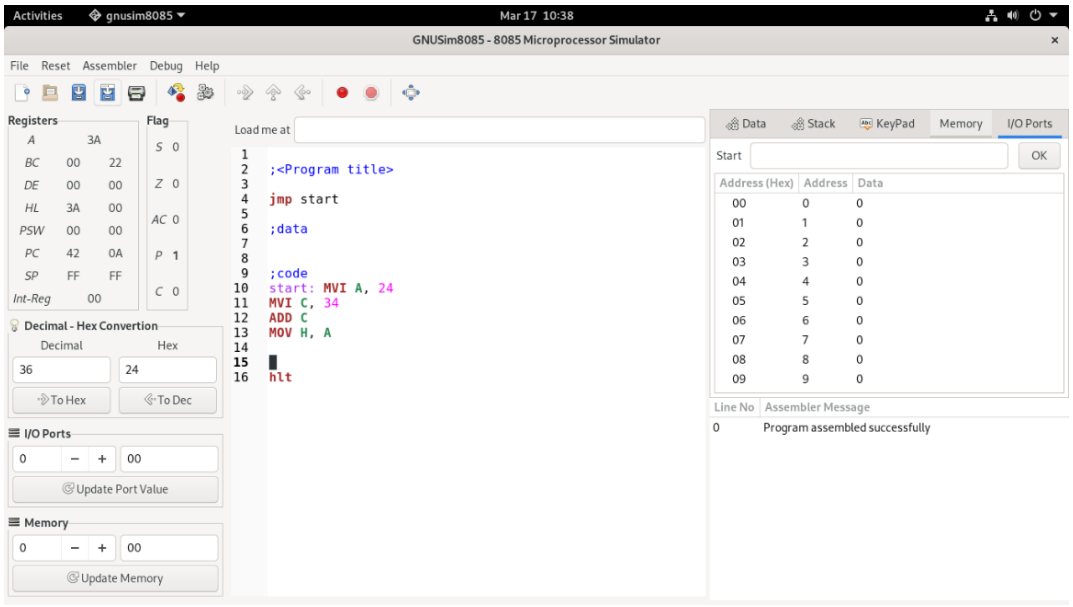


Registers

A		58
BC	00	34
DE	00	00
HL	58	00
PSW	00	00
PC	42	0A
SP	FF	FF
Int-Reg		00

Flag

S	0
Z	0
AC	0
P	0
C	0



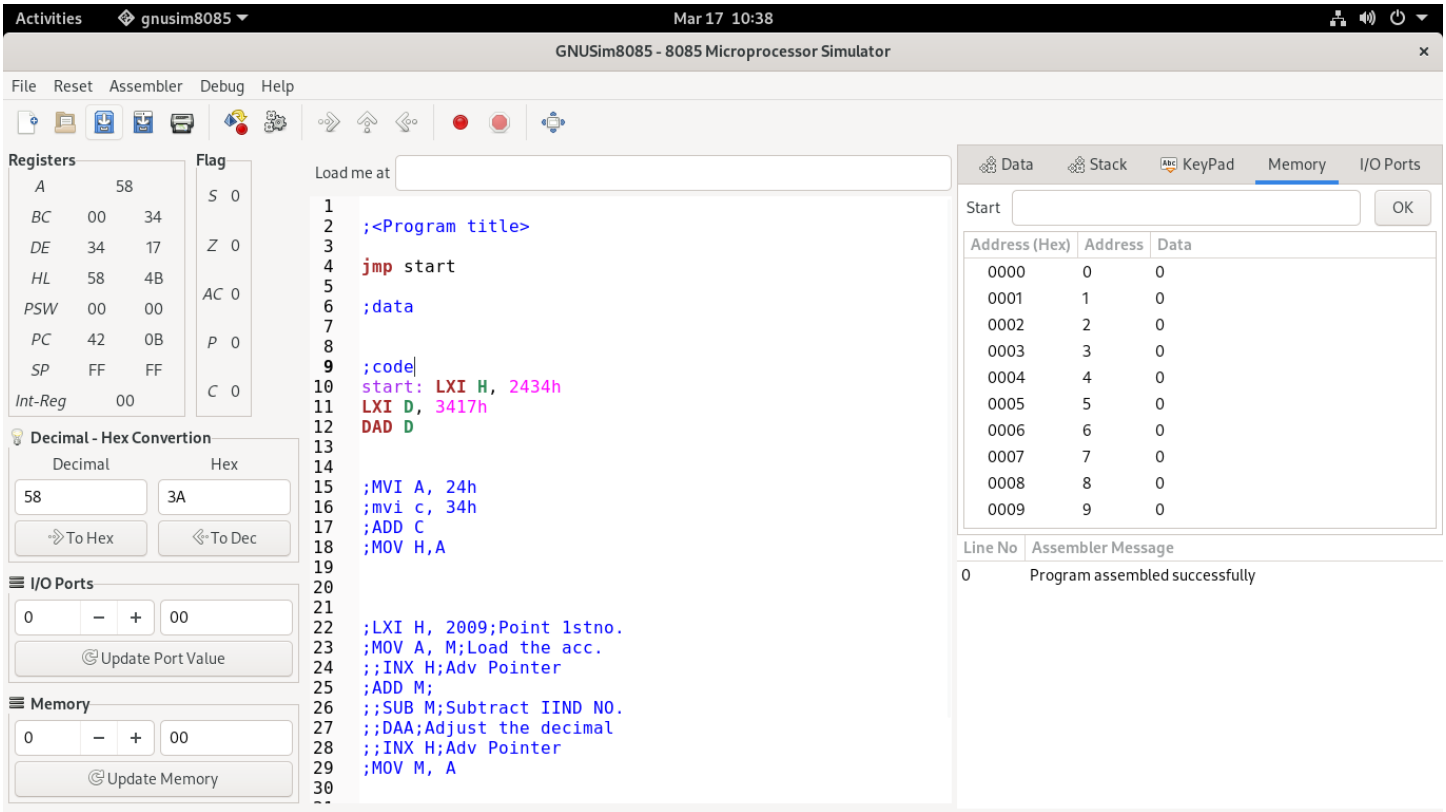
B) Adding 16 – Bit Numbers

Source Code

```
;Adding 16 – bit Numbers

jmp start

;data

;code
start: LXI H, 2434h
LXI D, 3417h
DAD D


hlt
```

B) Output


Registers
A 58
BC 00 34
DE 34 17
HL 58 4B
PSW 00 00
PC 42 0B
SP FF FF
Int-Reg 00
Flag
S 0
Z 0
AC 0
P 0
C 0


Activities
gnusim8085
Mar 17 10:38
GNUSim8085 - 8085 Microprocessor Simulator
File Reset Assembler Debug Help
Registers
Flag
Load me at
Data Stack KeyPad Memory I/O Ports
Start
OK
Address (Hex) Address Data
Decimal - Hex Convertion
Decimal Hex
58
3A
To Hex
To Dec
I/O Ports
Update Port Value
Memory
Update Memory
Line No Assembler Message
0 Program assembled successfully
;<Program title>
jmp start
;data
;code
start: LXI H, 2434h
LXI D, 3417h
DAD D
;MVI A, 24h
;mvi c, 34h
;ADD C
;MOV H,A
;LXI H, 2009;Point 1stno.
;MOV A, M;Load the acc.
;;INX H;Adv Pointer
;ADD M;
;;SUB M;Subtract IIND NO.
;;DAA;Adjust the decimal
;;INX H;Adv Pointer
;MOV M, A