

# ASSIGNMENT :- 1

1. Write a program to perform addition of two 8-bit numbers.

→ org 100h

a dw 09H

b dw 09H

c dw ?

MOV BX,a

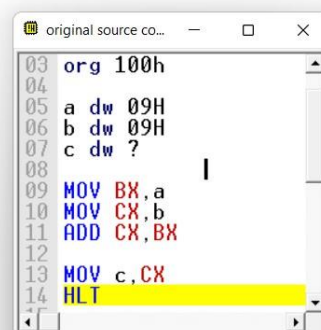
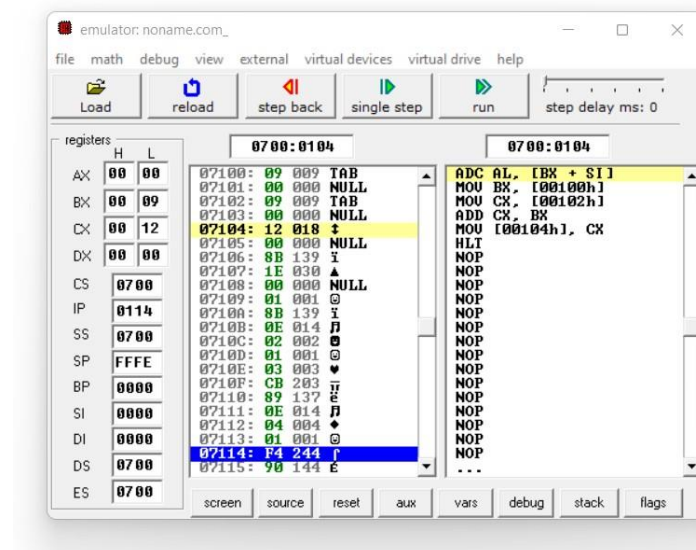
MOV CX,b

ADD CX,BX

MOV c,CX

HLT

□ OUTPUT:-



2. Write a program to perform subtraction of two 8-bit numbers.

➔ org 100H

MOV AX,09H

MOV BX,06H

CMP BX,AX

JNC LOOP1

SUB BX,AX

NEG BX

HLT

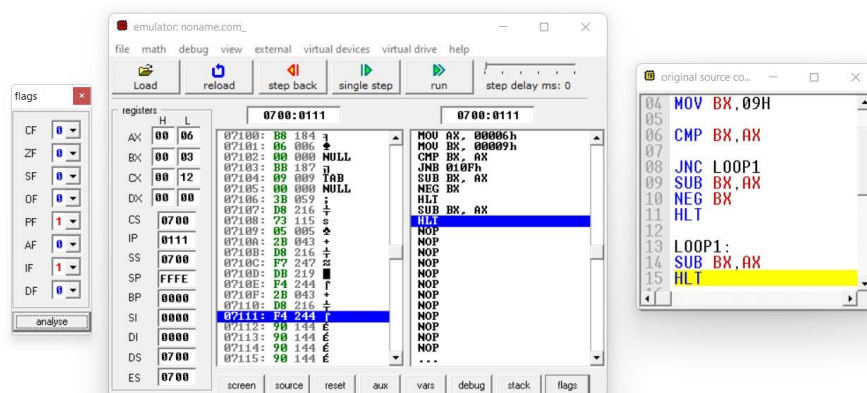
LOOP1:

SUB BX,AX

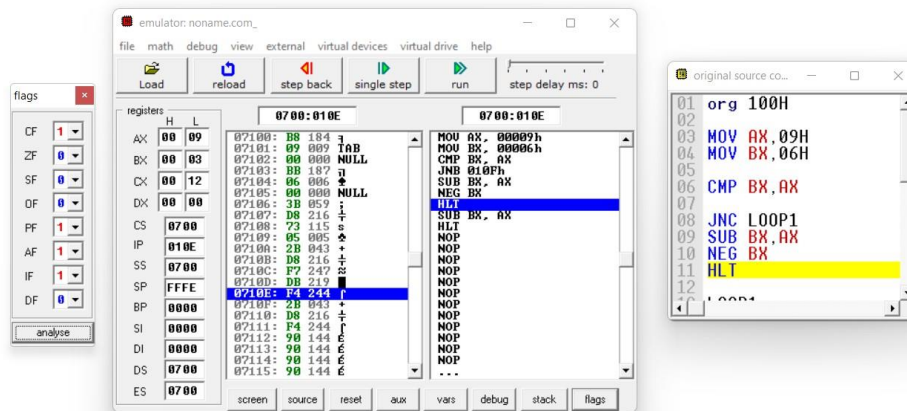
HLT

## □ OUTPUT:-

- For 09H – 06H answer store in BX = 03H and carry bit set to 0 as does not have borrow.



- For 06H – 09H answer store in BX = 03H and carry bit set to 1 as have borrow.



3. Write a program to perform multiplication of two 8-bit numbers.

➔ org 100H

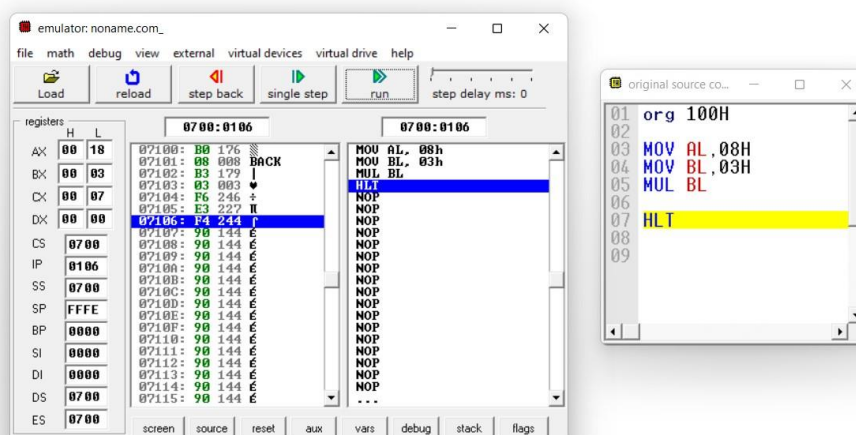
MOV AL,08H

MOV BL,03H

MUL BL

HLT

□ OUTPUT:-



4. Write a program to perform division of two 8-bit numbers.

➔ org 100H

MOV AL,07H

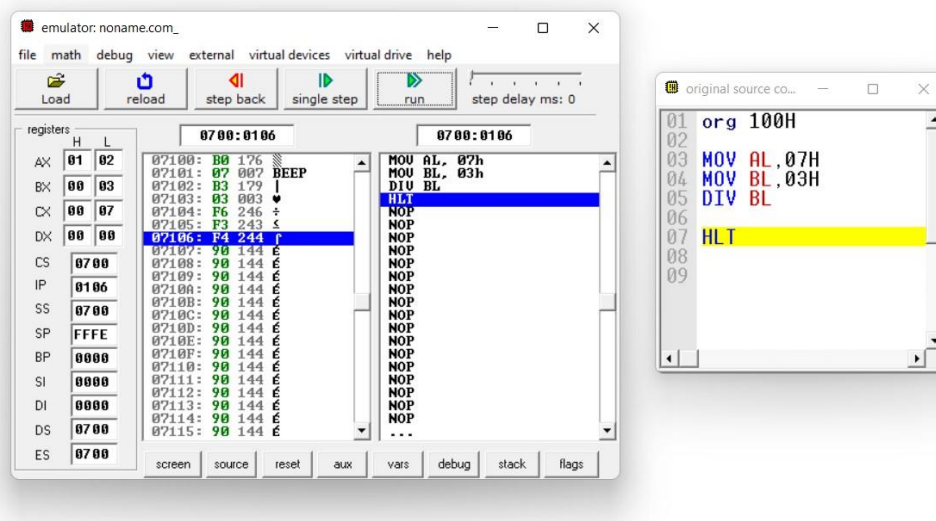
MOV BL,03H

DIV BL

HLT

### □ OUTPUT:-

- For division quotient store at AX-L and remainder store at AX-H.



5. Write a program to interchange values of two variables.

➔ org 100H

MOV AL,08H

MOV BL,03H

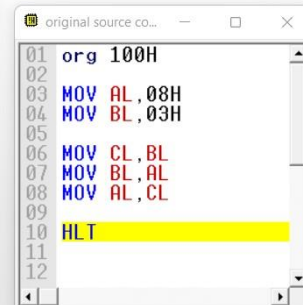
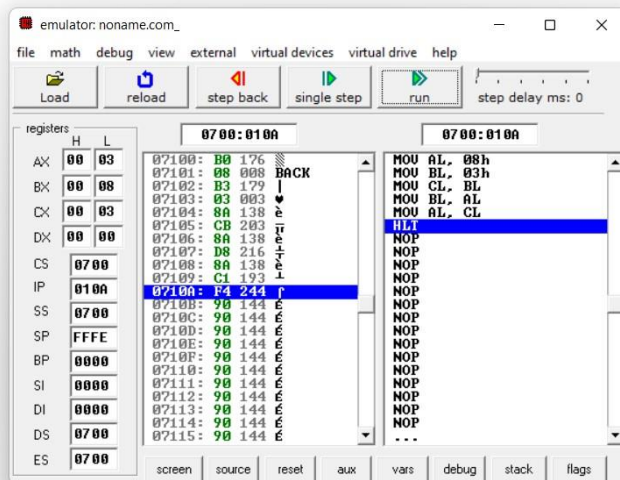
MOV CL,BL

MOV BL,AL MOV

AL,CL

HLT

#### □ OUTPUT:-



6. Write a program to find maximum number from given array of 16-bit numbers.

→ org 100H

MOV SI,00100H

MOV CX,00009H

MOV AL,[SI]

INC SI

**PRN NO.:- 2020033800104487**

HLT

The screenshot shows the 'emulatin: MINIMARRAY.bin' application window. The top menu bar includes 'file', 'math', 'debug', 'view', 'external', 'virtual devices', 'virtual drive', and 'help'. Below the menu is a toolbar with icons for 'Load', 'reload', 'step back', 'single step', 'run', and a 'step delay ms: 0' slider.

The main window is divided into several sections:

- registers:** A table showing the state of various CPU registers. The 'H' and 'L' columns represent high and low bytes. The '0100:0013' register is highlighted in blue.
- Instruction Stream:** A list of instructions being executed, such as 'MOV SI, 00100h', 'MOV CX, 00007h', 'INC SI', 'CMP [SI], AL', 'JB 0Fh', 'MOV AL, [SI]', 'INC SI', 'DEC CX', 'JNE 0Fh', 'HLT', 'NOP', and '...'. The 'HLT' instruction is highlighted in blue.
- Memory Dump:** A table showing memory addresses and their contents. The address '0100:0100' is highlighted in blue. The contents are mostly zeros, with some non-zero values at the end of the dump.

The bottom status bar shows 'Random Access Memory' and a 'table' button.