
VIT®

Vellore Institute of Technology

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# CSE2006
# Microprocessor and Interfacing

## Lab Assignment 1

Slot: L39+L40

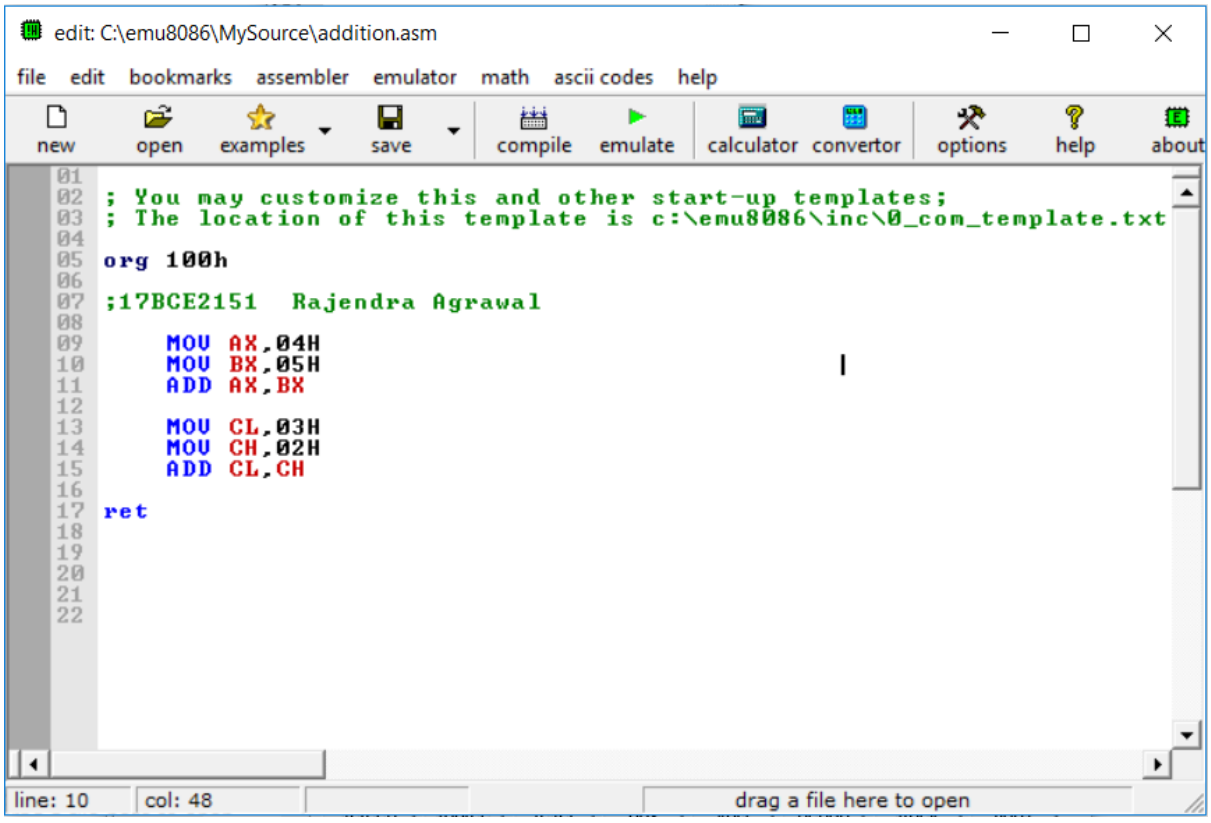
**Name: Rajendra Agrawal**

**Reg. No: 17BCE2151**

**Question:** Write an 8086 Assembly Language Program to perform basic Arithmetic operations in both 8bit and 16bit mode of computation.

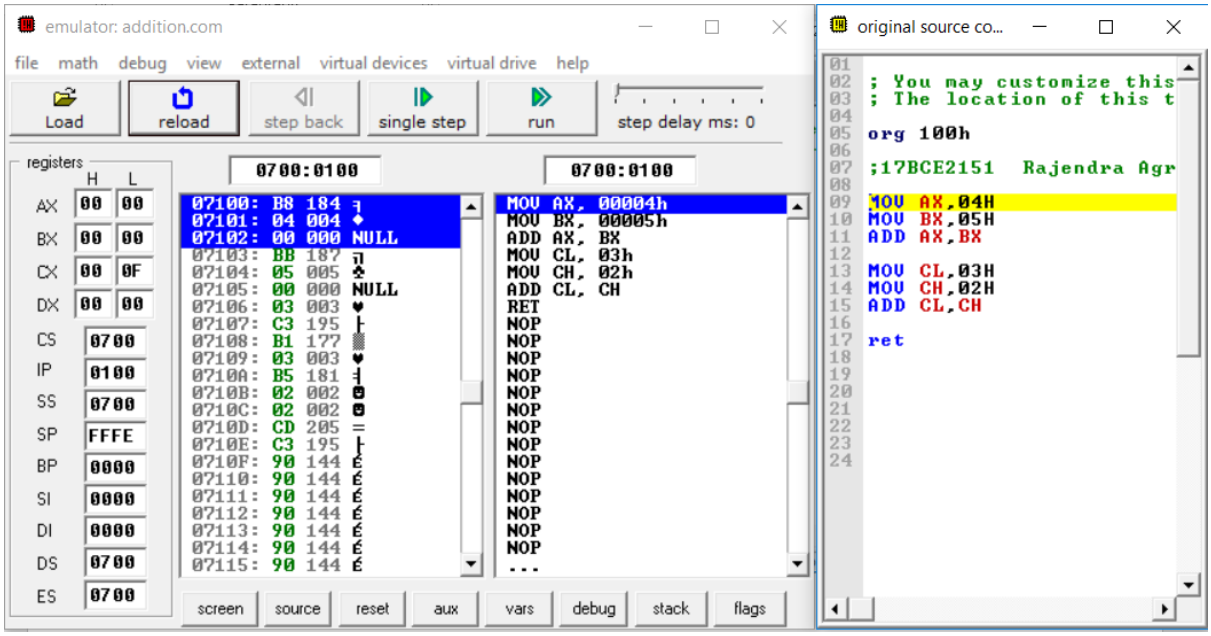
## 1. Addition:

### Code Snippet:

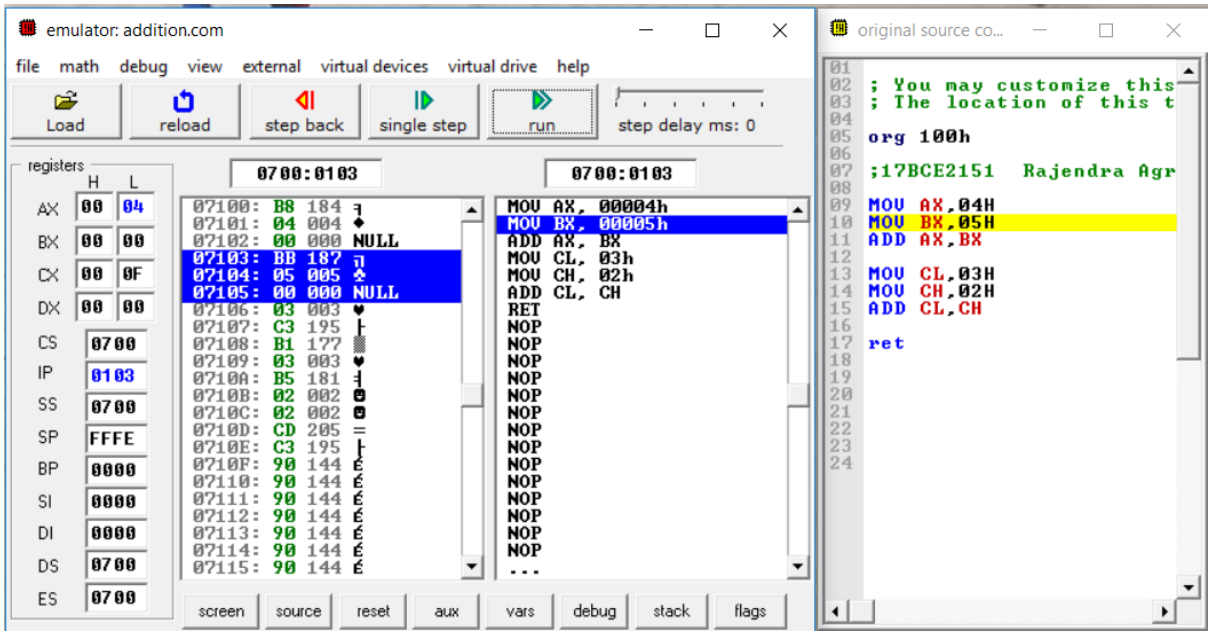


## Step by Step Execution:

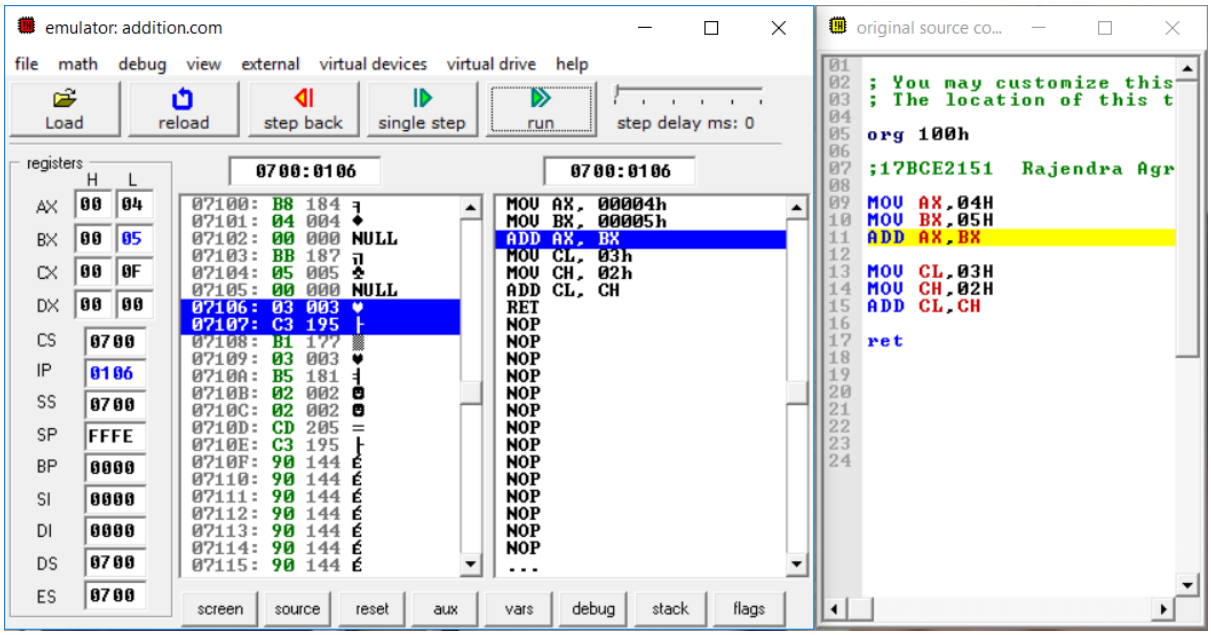
Step 1: Load the program.



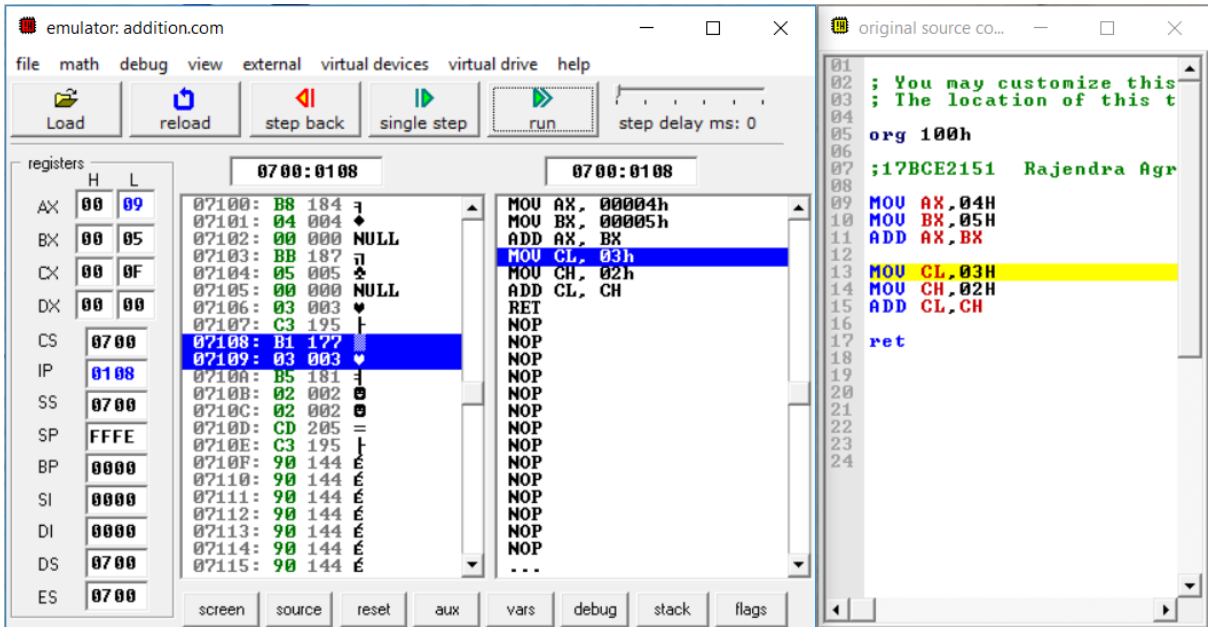

Step 2: Moving 04H into AX for word mode operation.



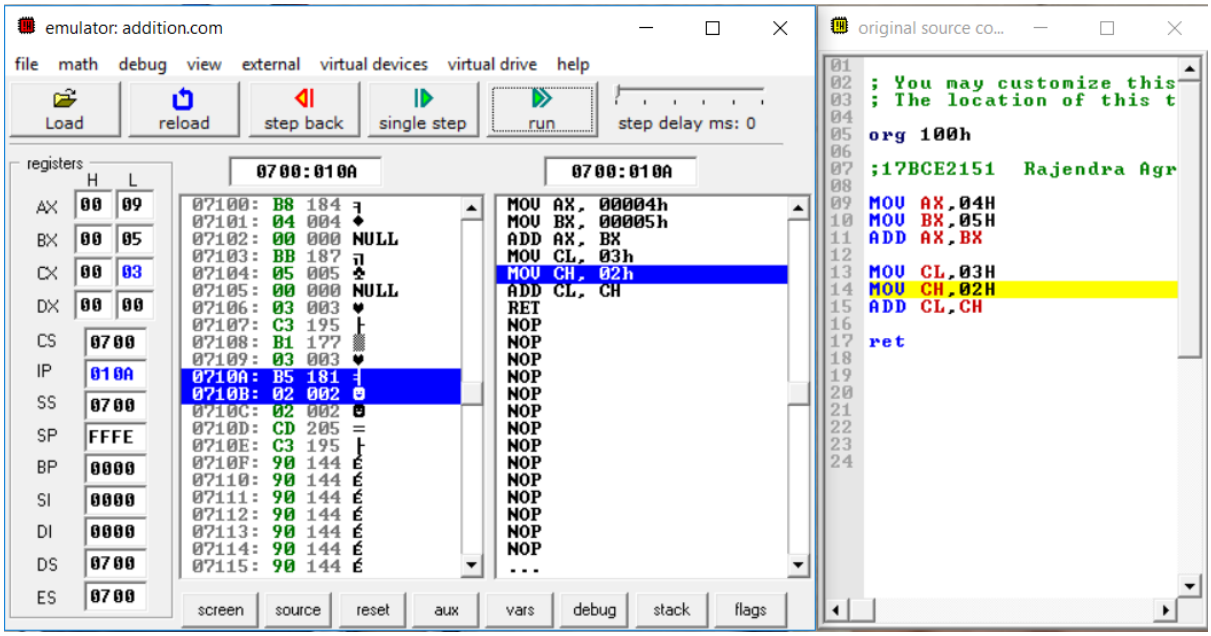
Step 3: Moving 05H into BX.



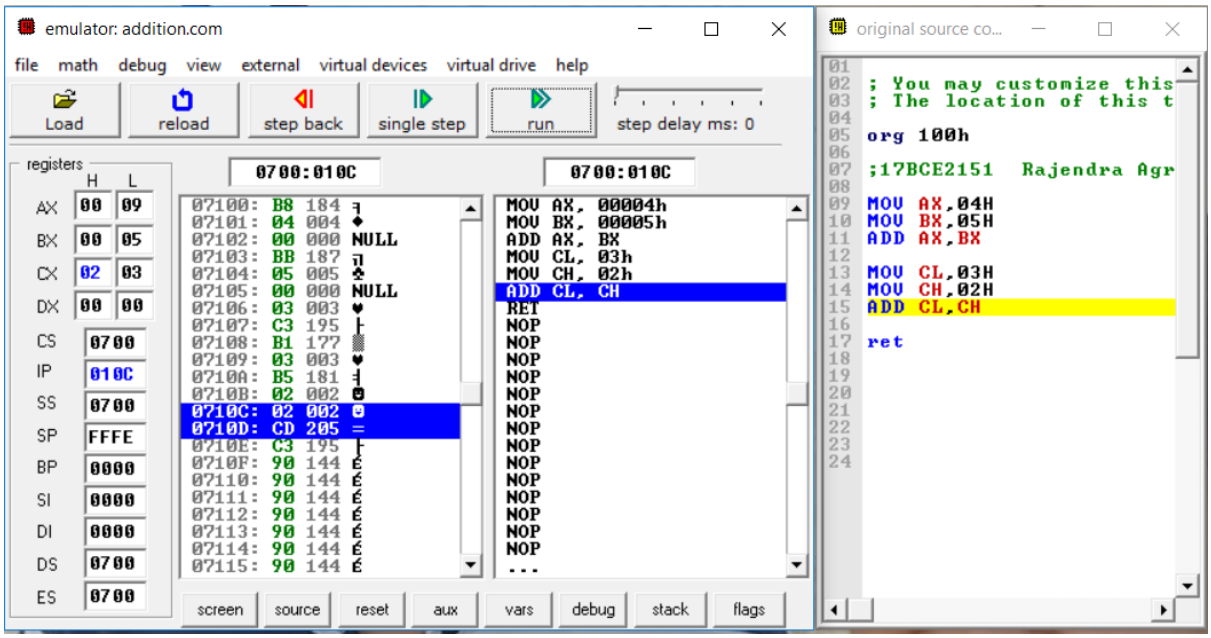

Step 4: Adding AX and BX and store result in AX.



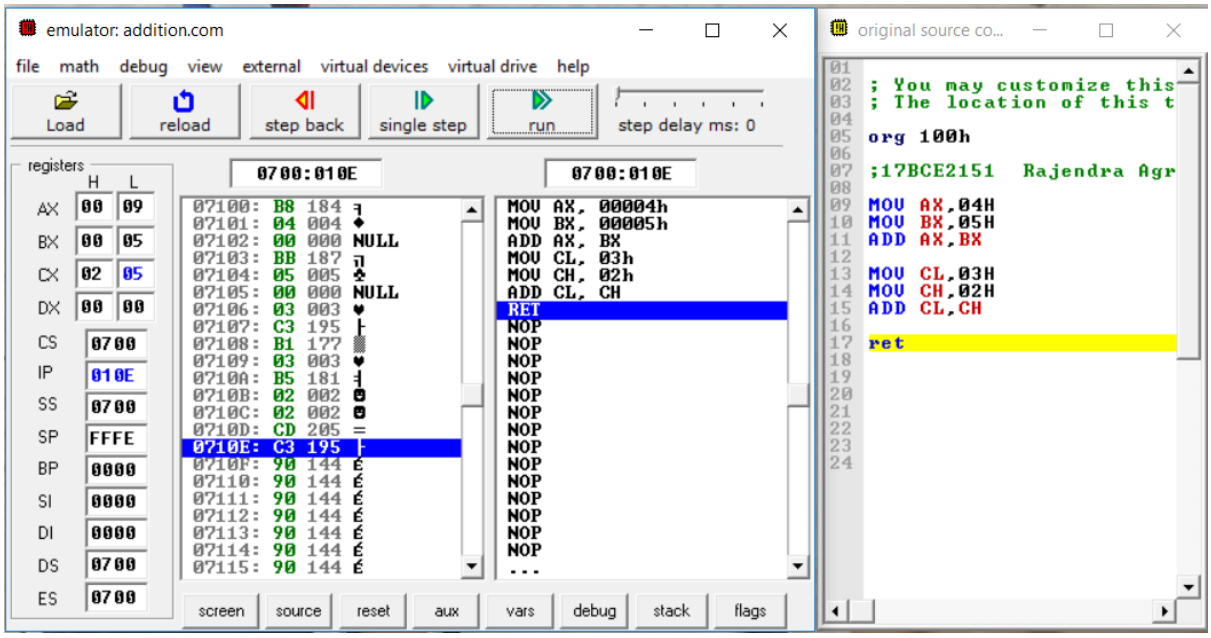
Step 5: Moving 03H into CL for byte mode operation.



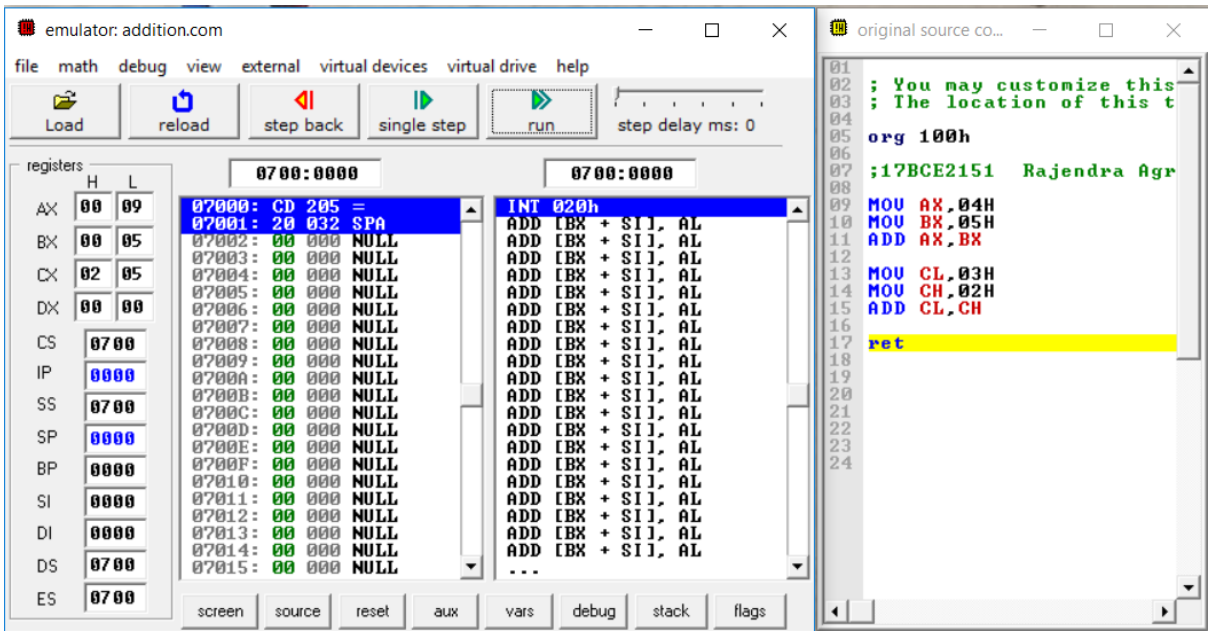

Step 6: Moving 02H into CH.



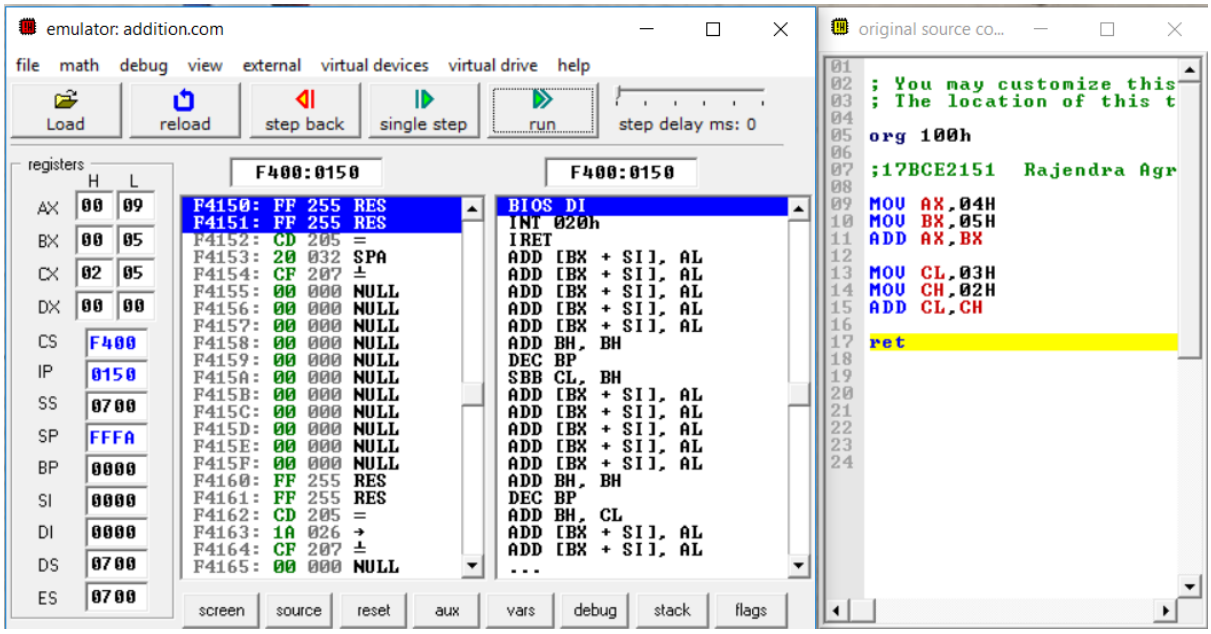
Step 7: Add CL and CH, and store result into CL.



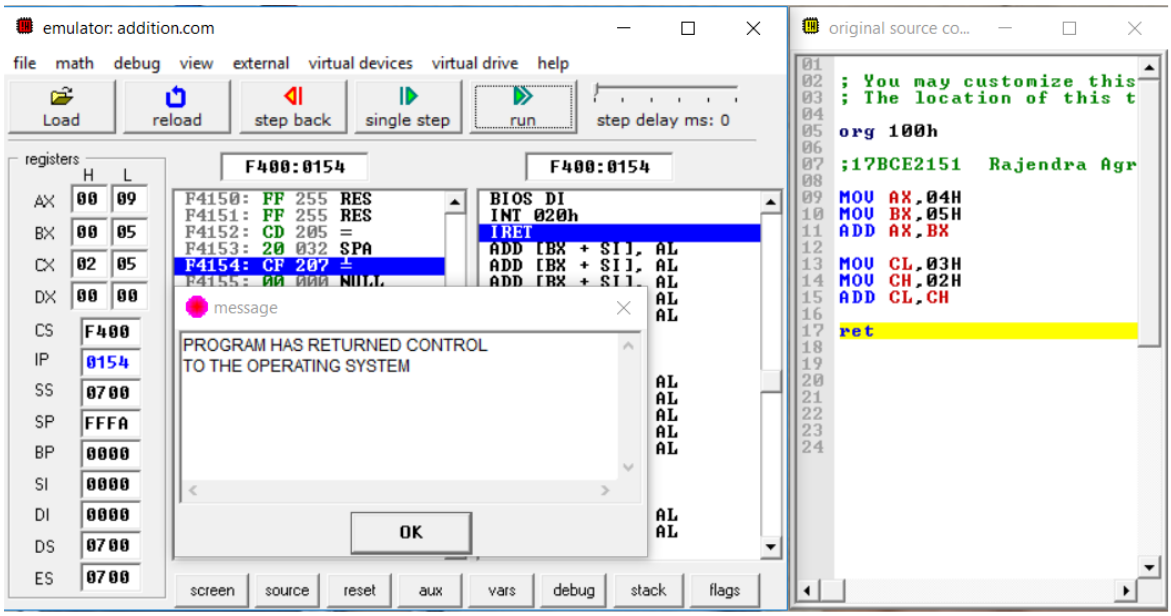

Step 8: Executing return.



Step 9: Executing Return.

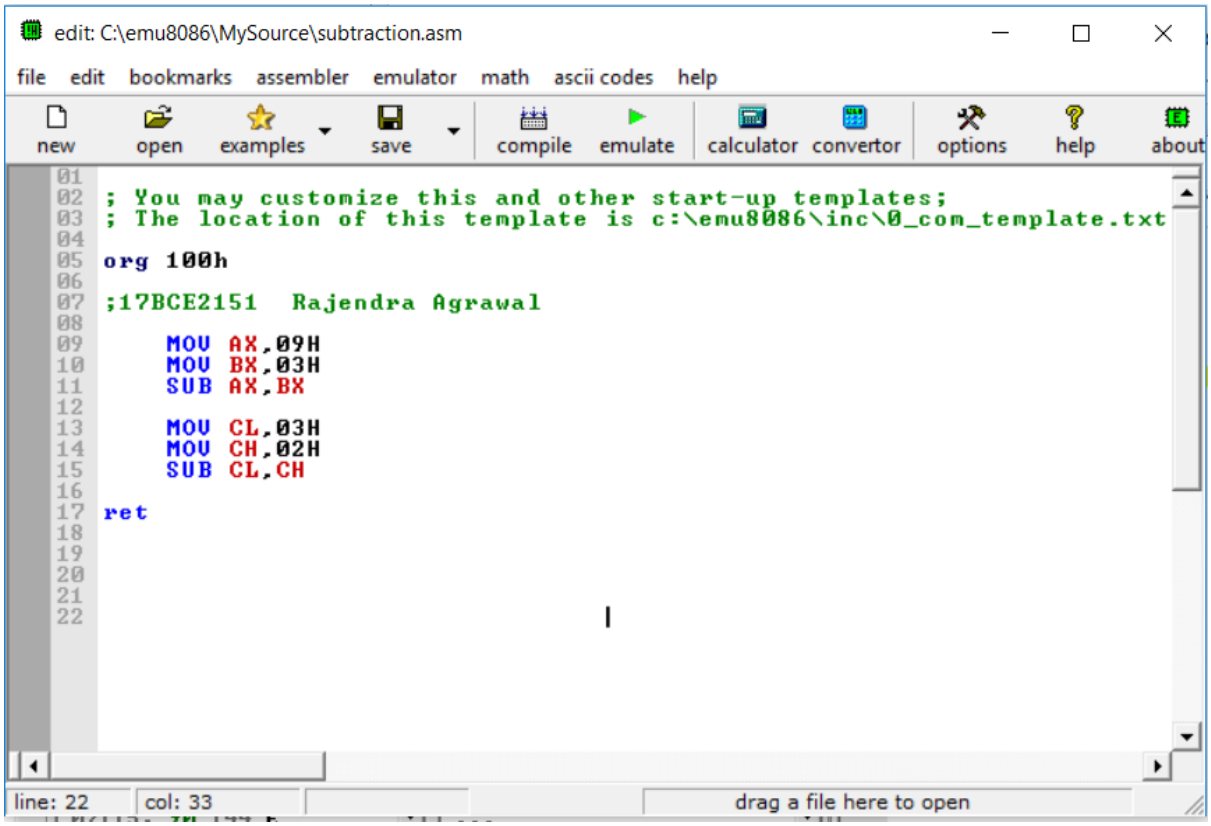



Step 10: Execution complete.



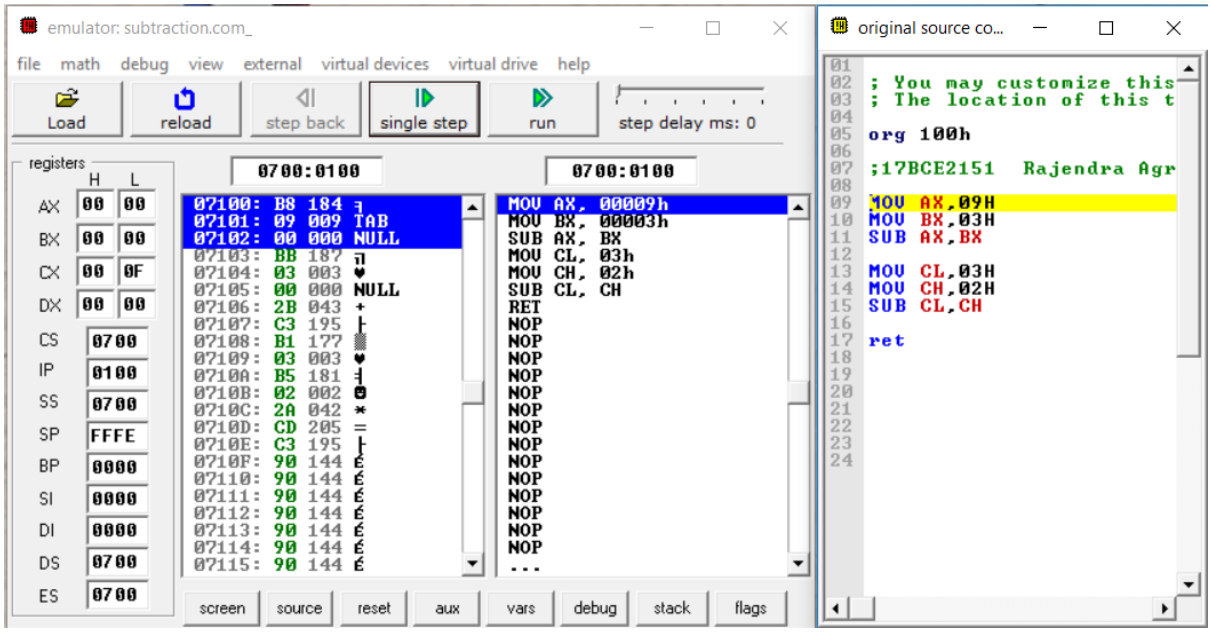
## 2. Subtraction:

## Code Snippet:

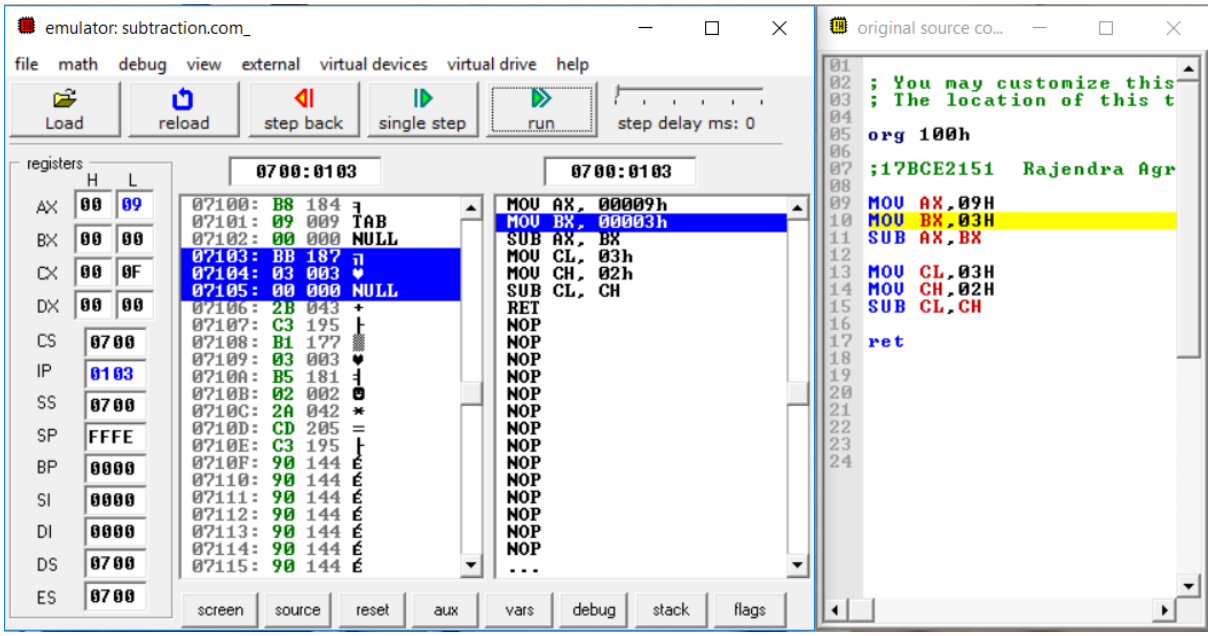



## Step by Step Execution:

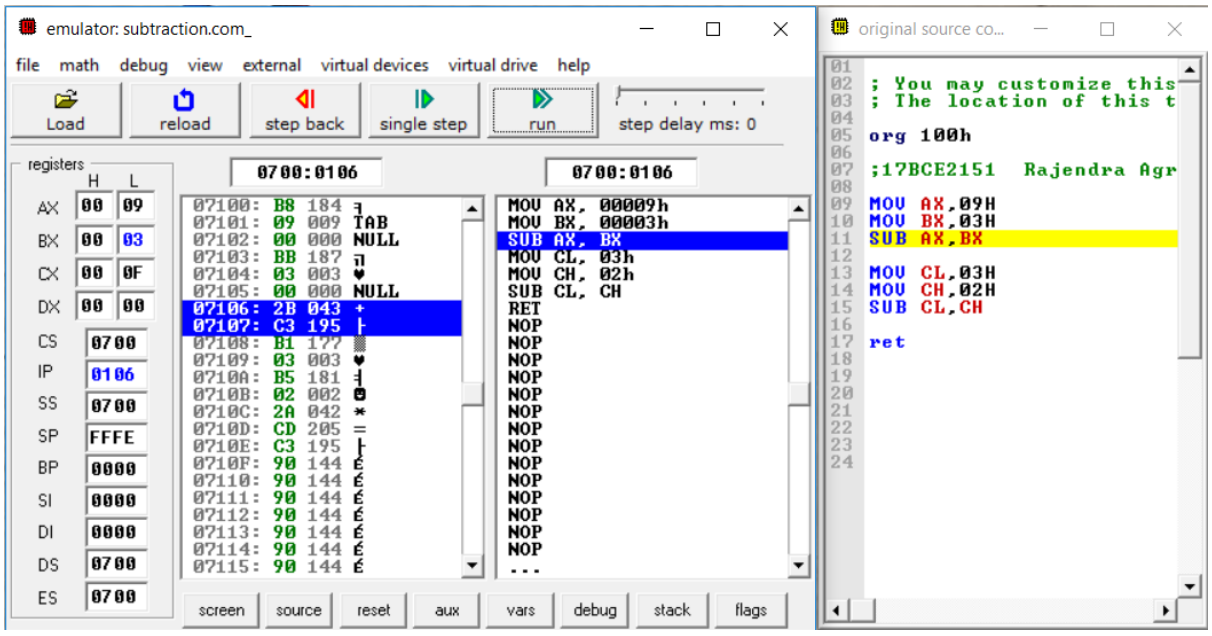
Step 1: Load the program.



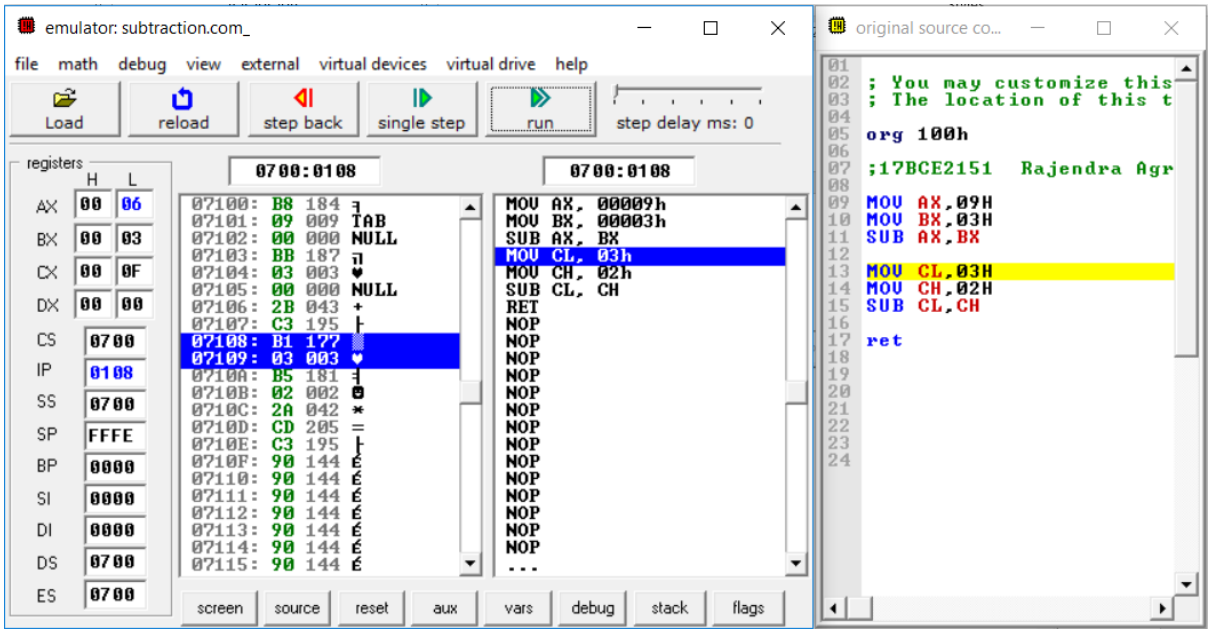
Step 2: Move 09H into AX for word mode operation.



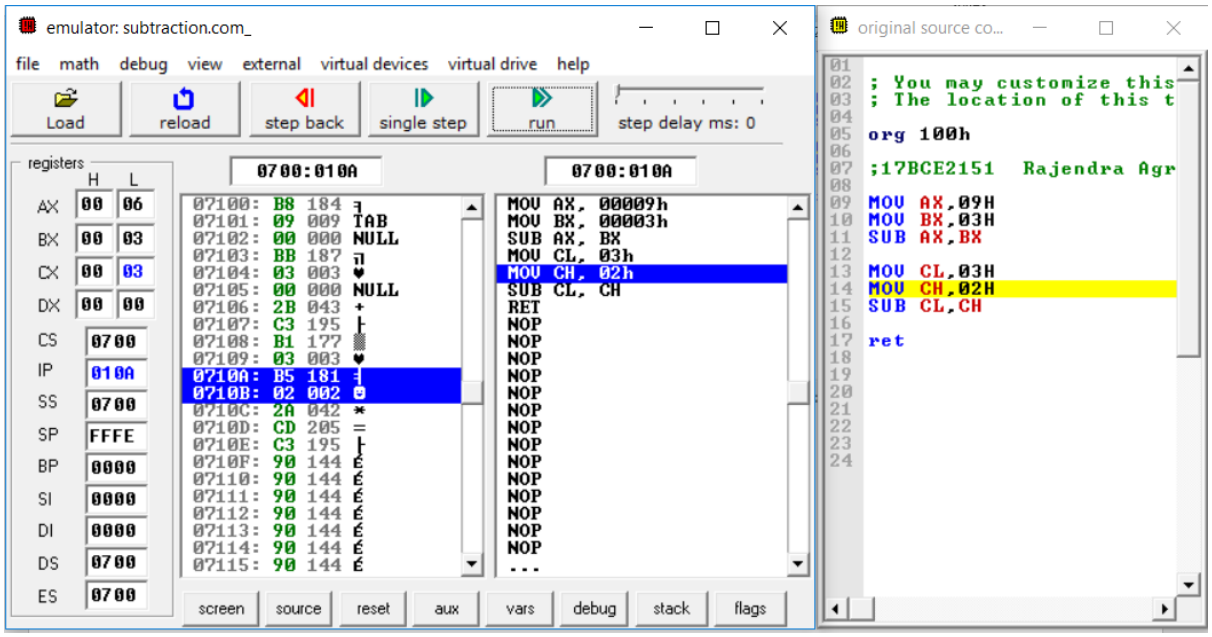

Step 3: Move 03H into BX.



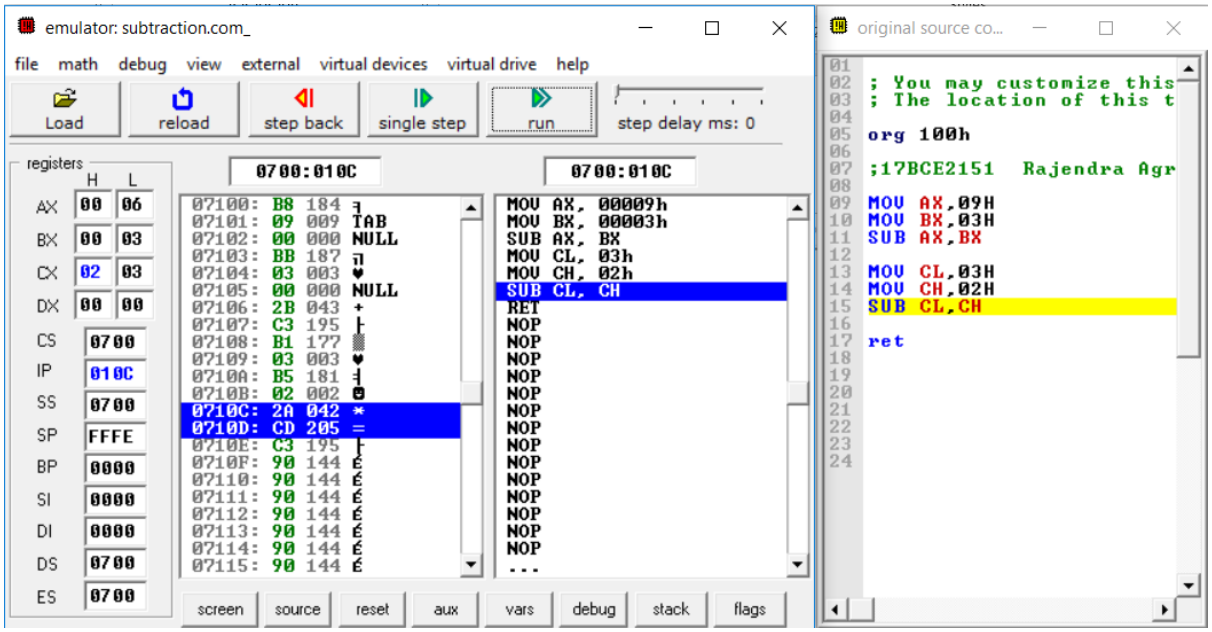
Step 4: Subtract AX and BX and store result in AX.



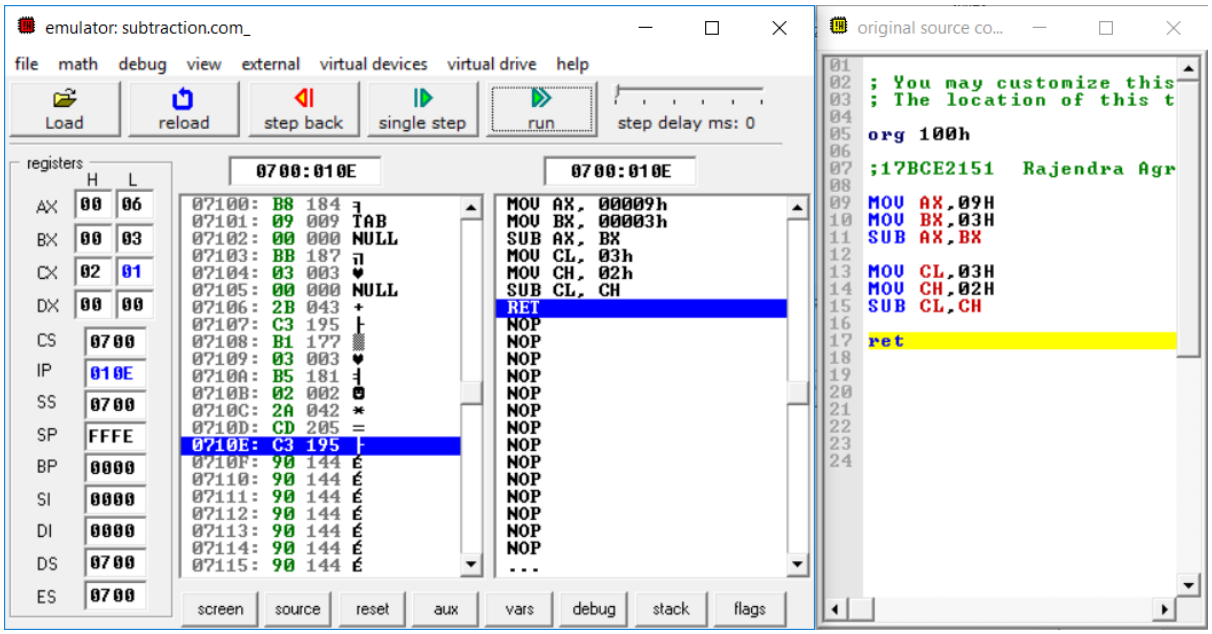

Step 5: Move 03H into CL for byte mode operation.



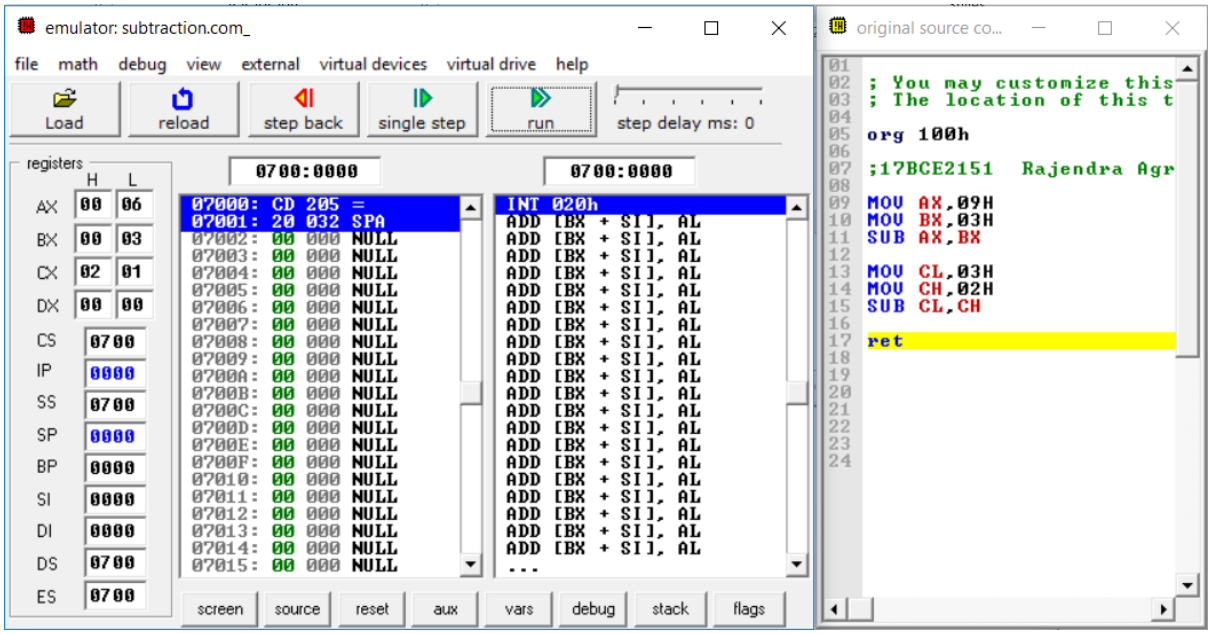
Step 6: Move 02H into CH.



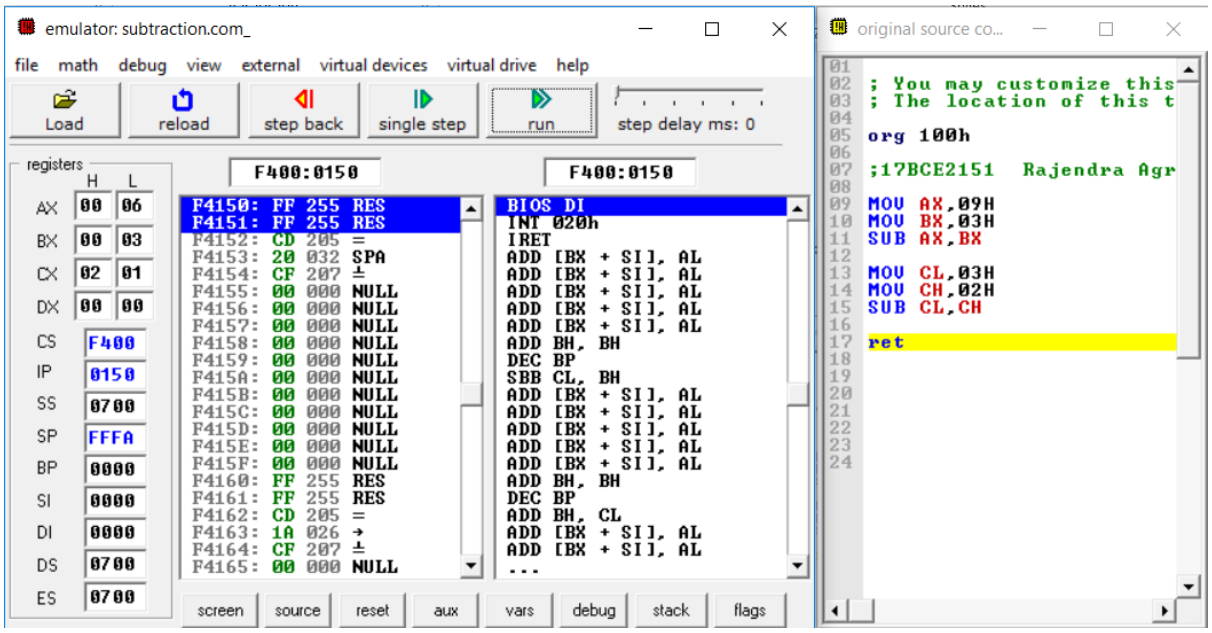

Step 7: Subtract CL and CH and store result into CL.



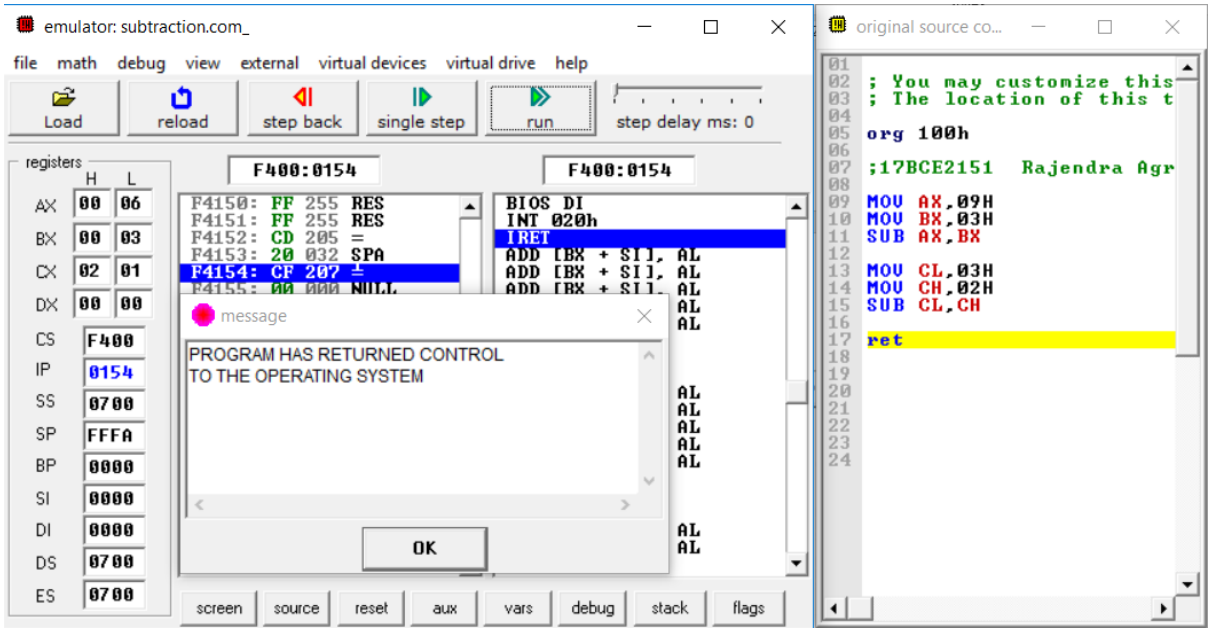
Step 8: Executing Return.




Step 9: Executing Return.

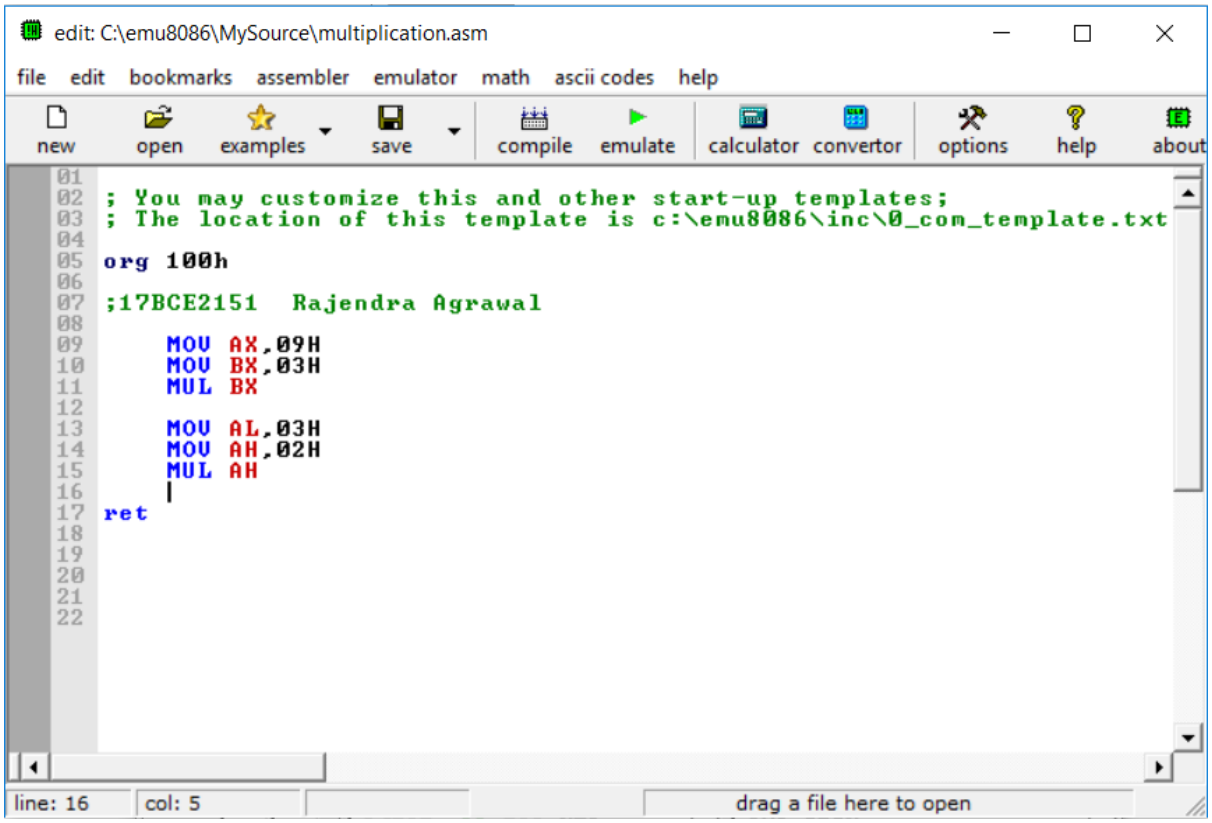


Step 10: Execution Complete.



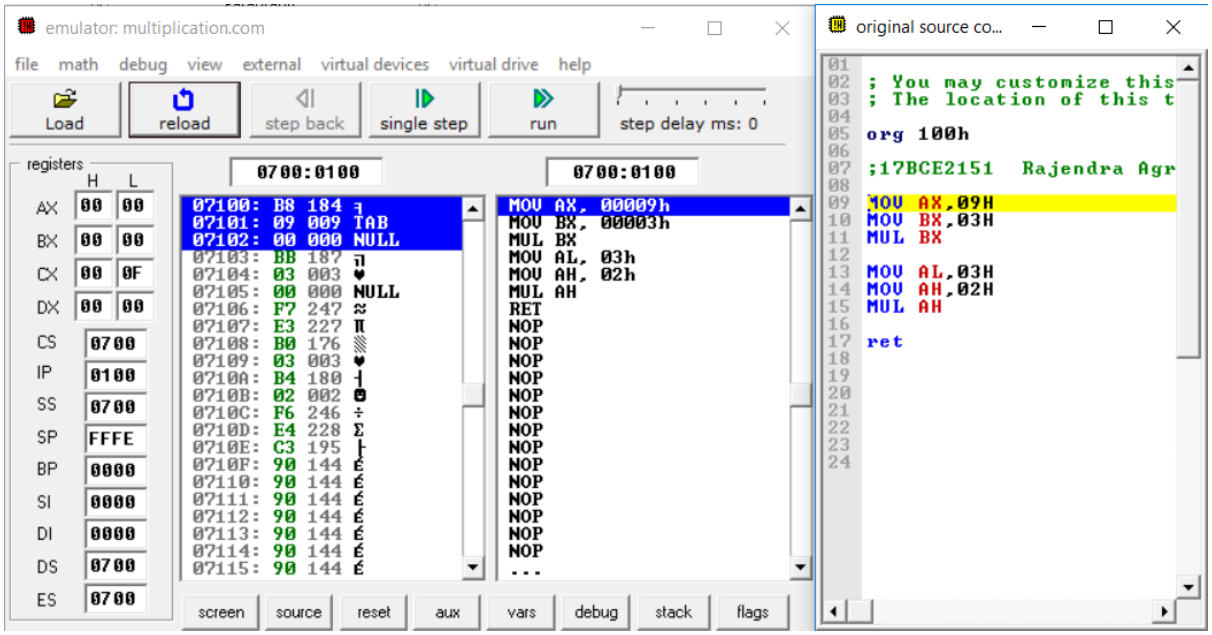
## 3. Multiplication:

## Code Snippet:

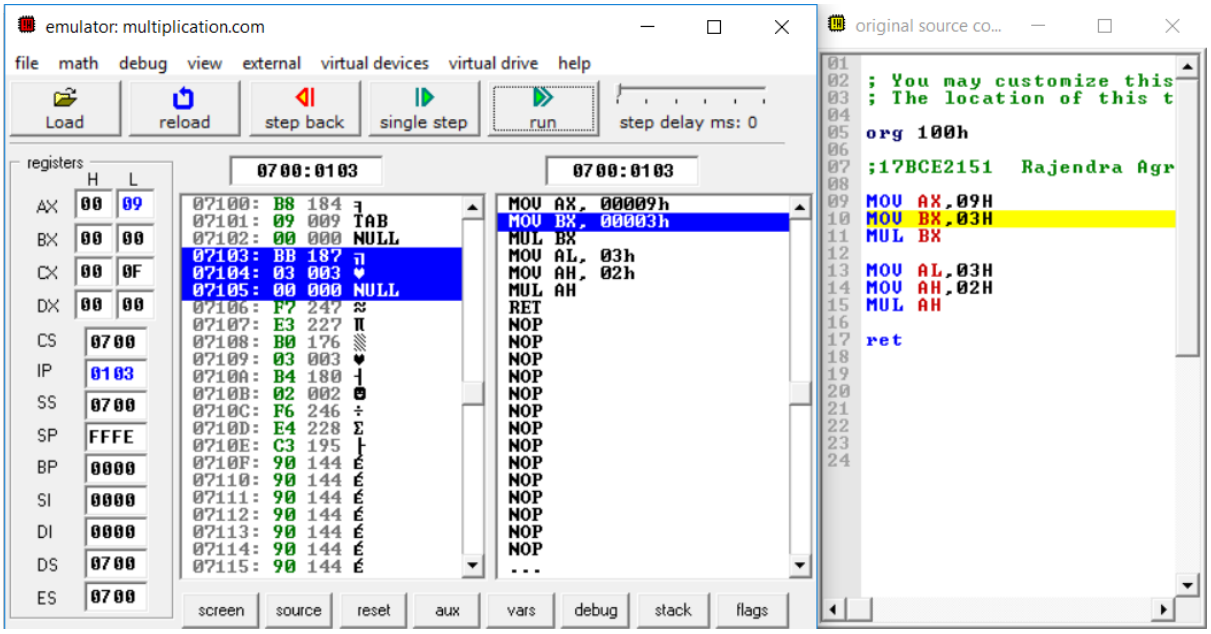



## Step by Step Execution:

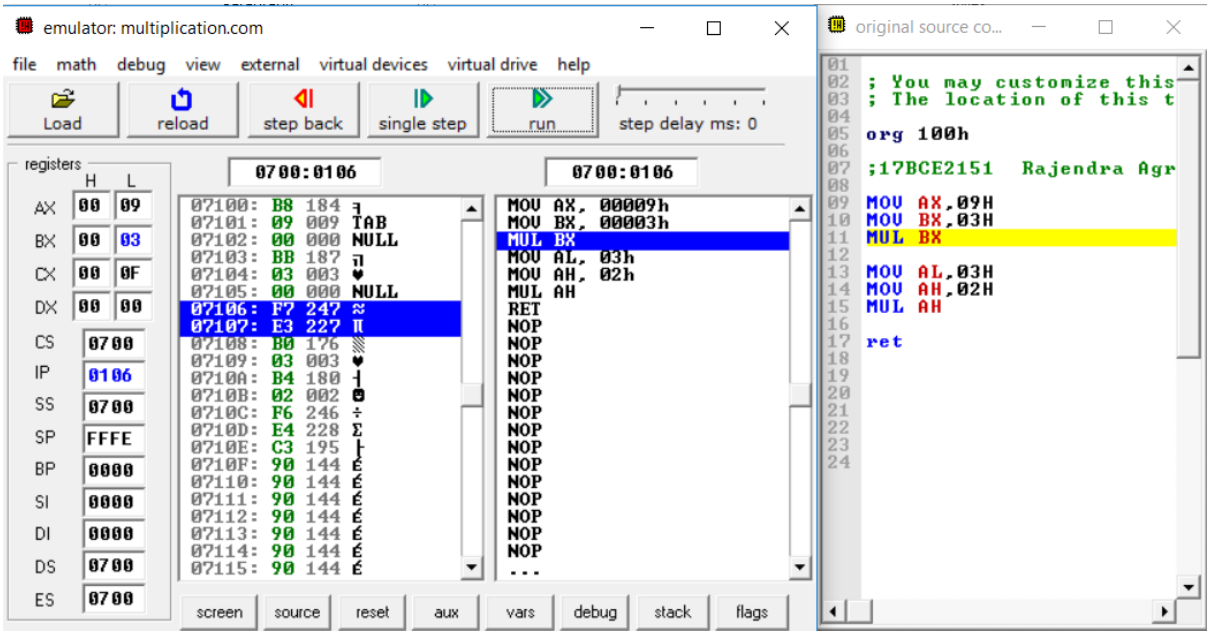
Step 1: Load the program.



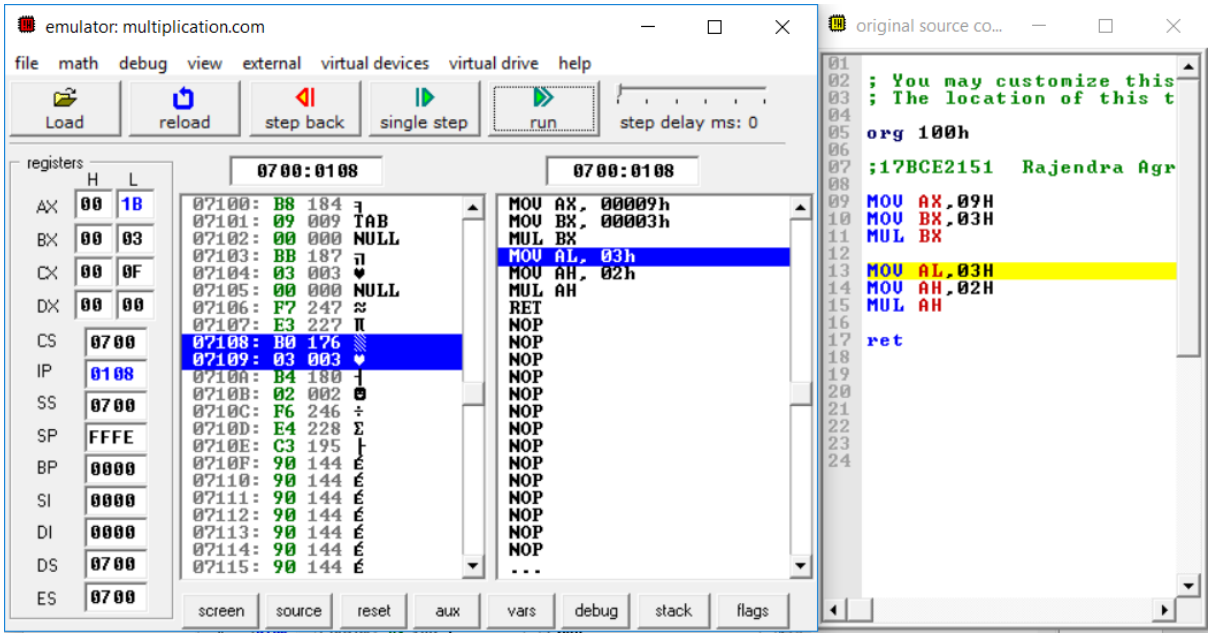
Step 2: Move 09H into AX for word mode operation.



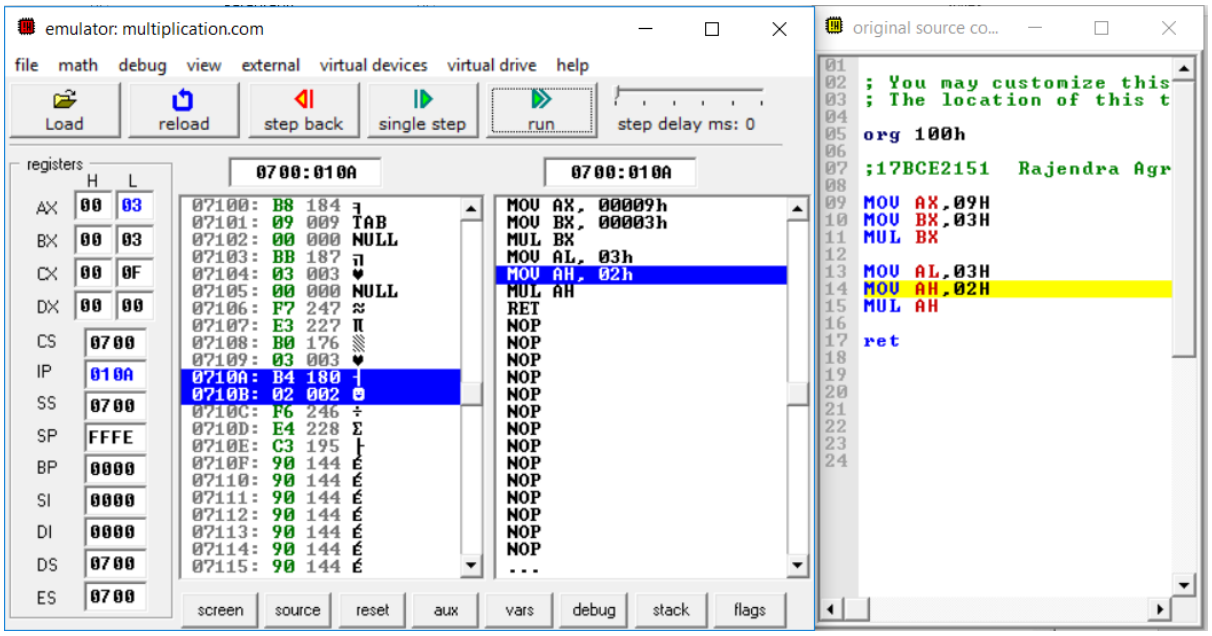

Step 3: Move 03H into BX.



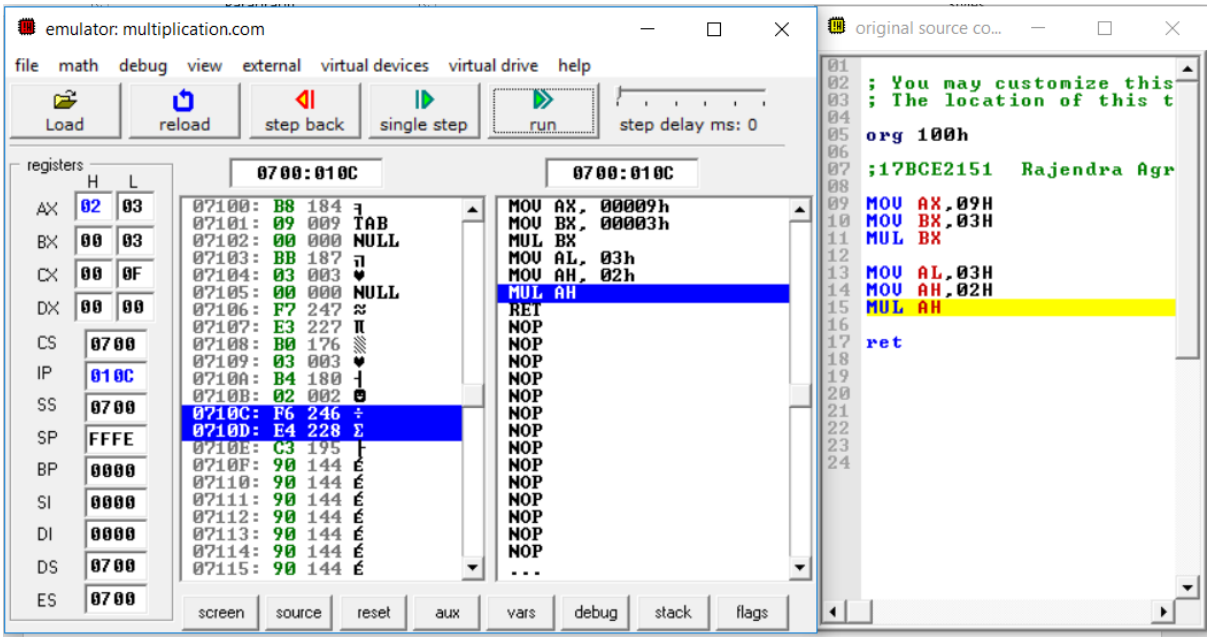
Step 4: Multiply BX with AX and store result into AX.



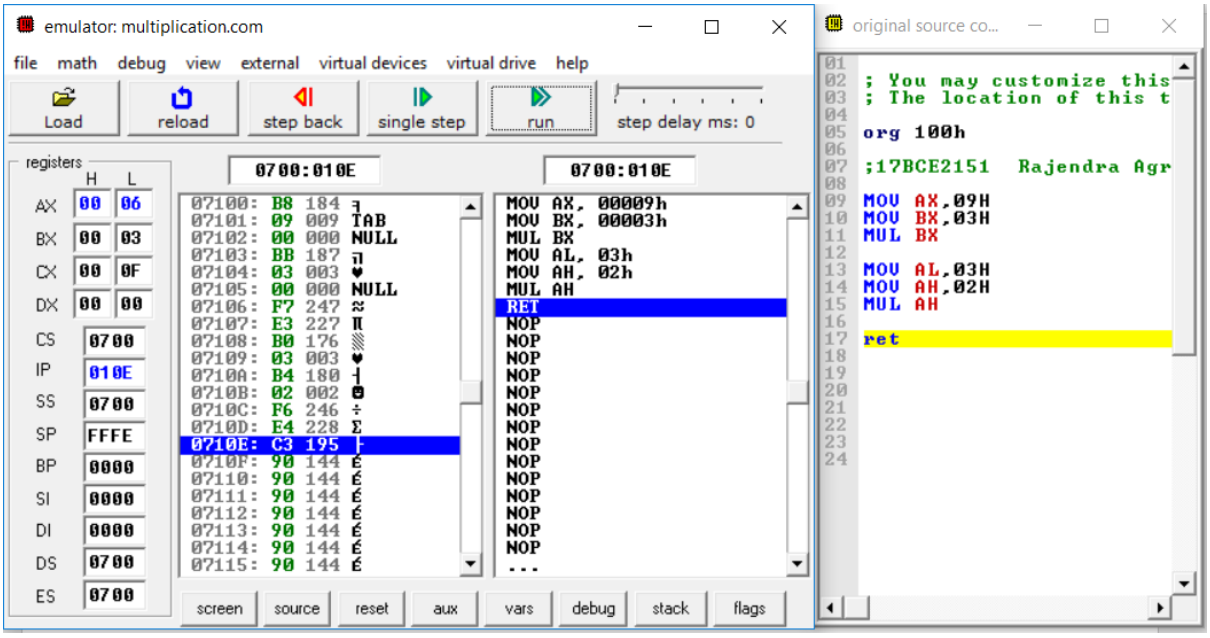

Step 5: Move 03H into AL for byte mode operation.



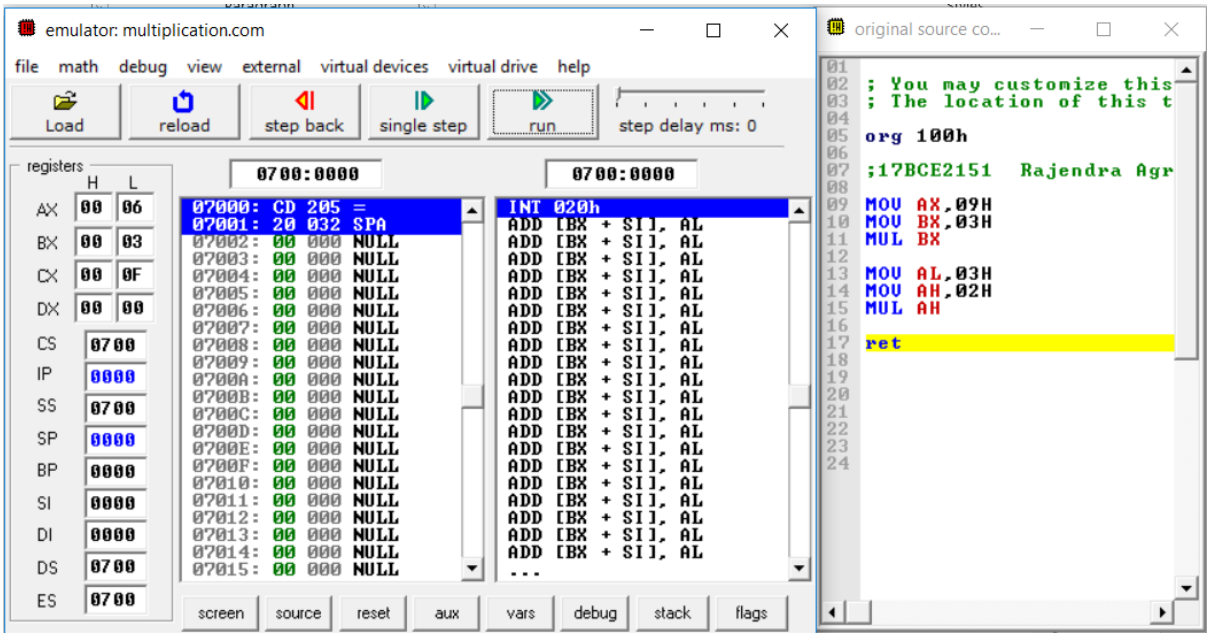
Step 6: Move 02H into AH.



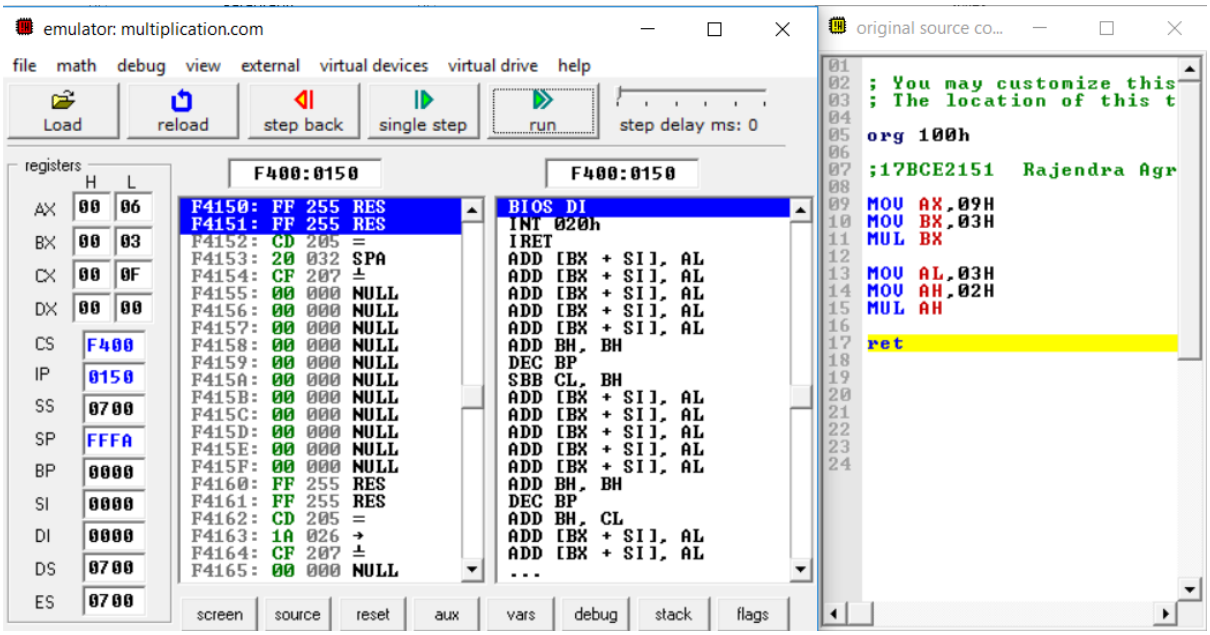

Step 7: Multiply AH with AL and store result into AX.



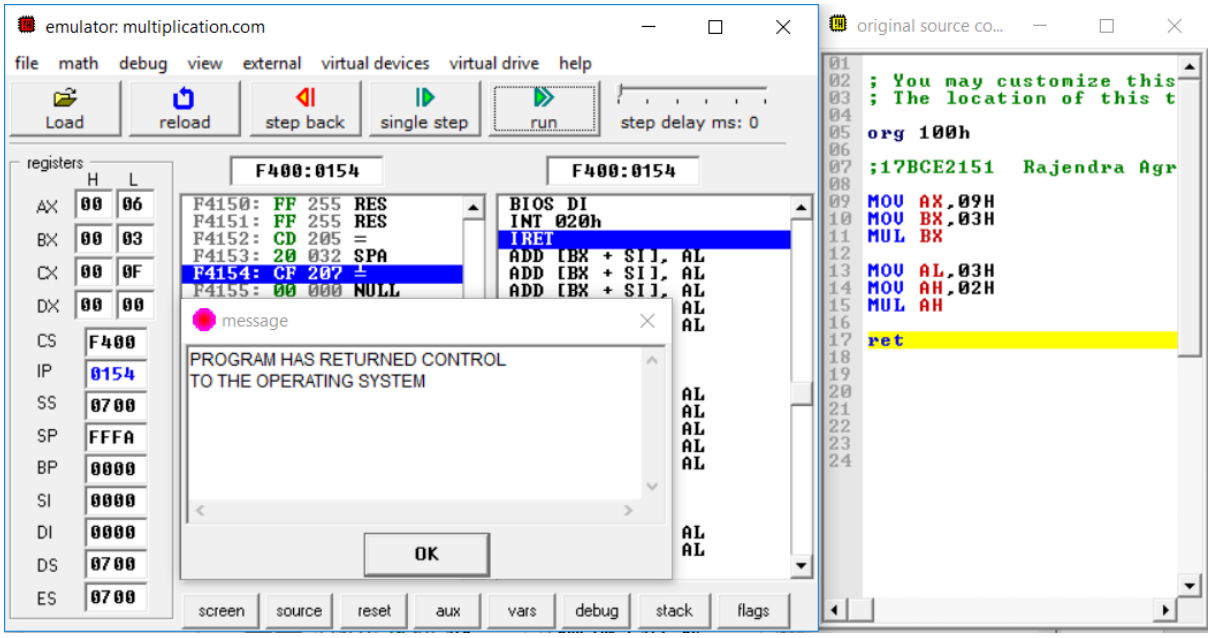
Step 8: Executing Return.




Step 9: Executing Return.

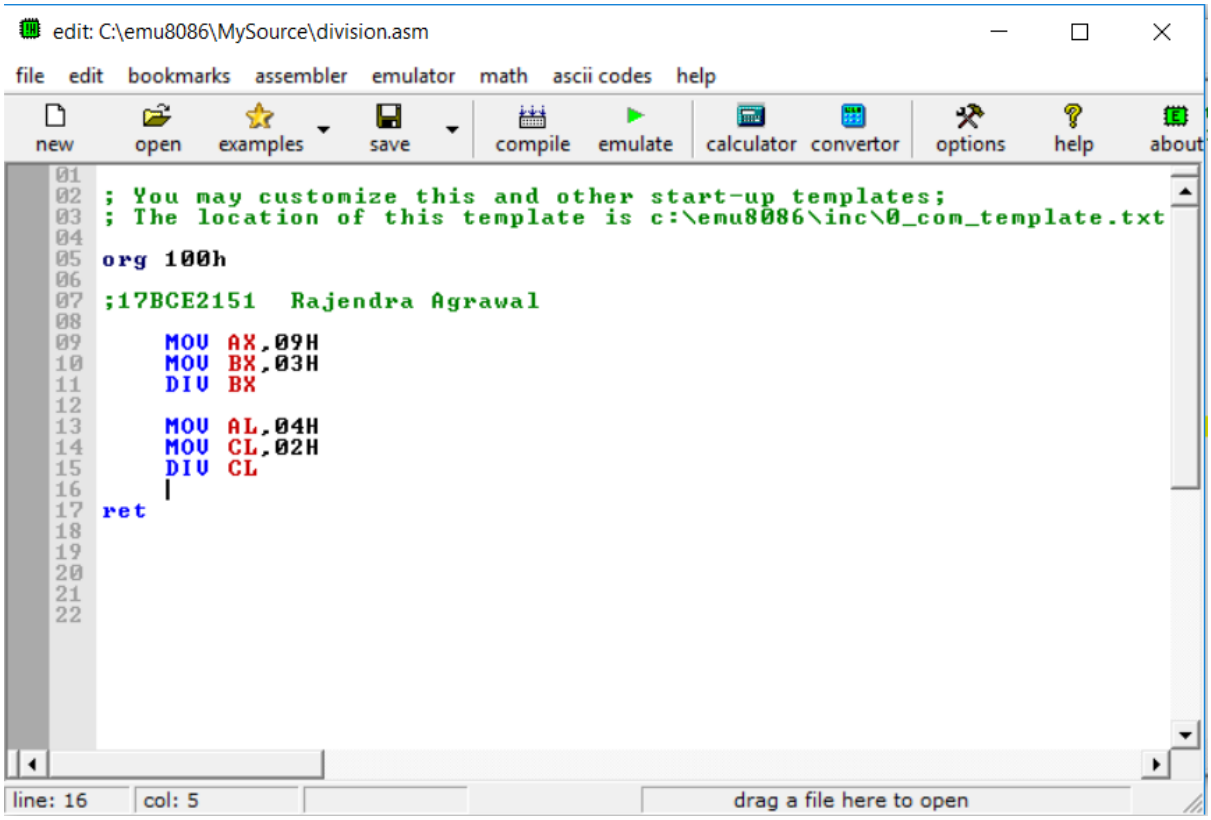


Step 10: Execution Complete.



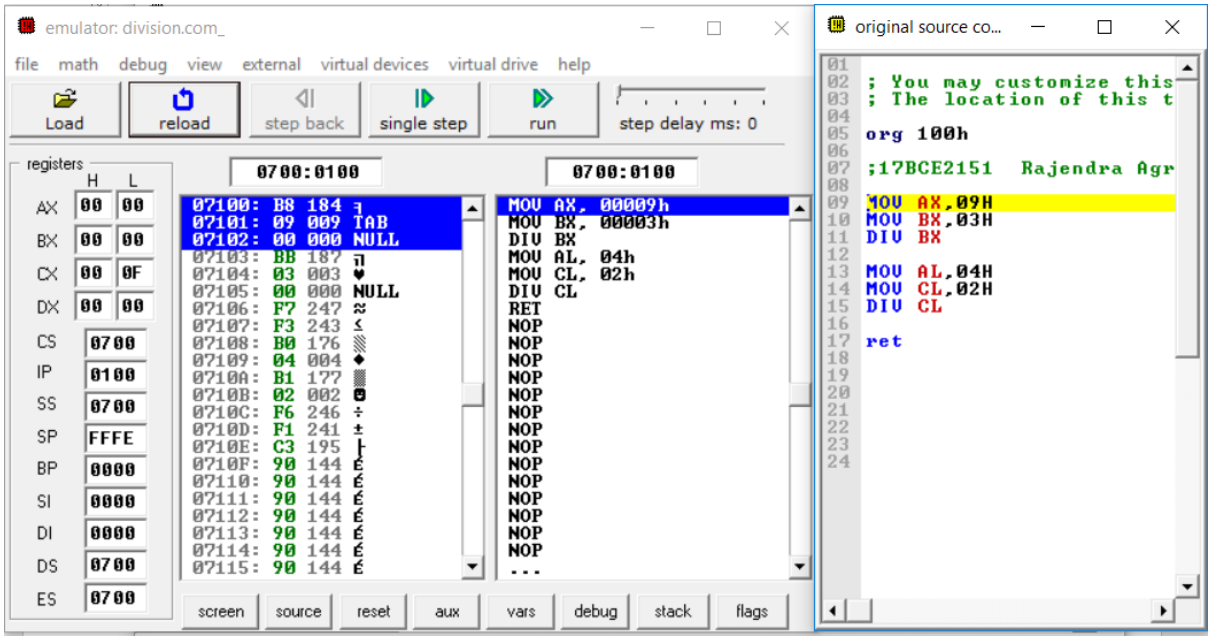
## 4. Division:

## Code Snippet:

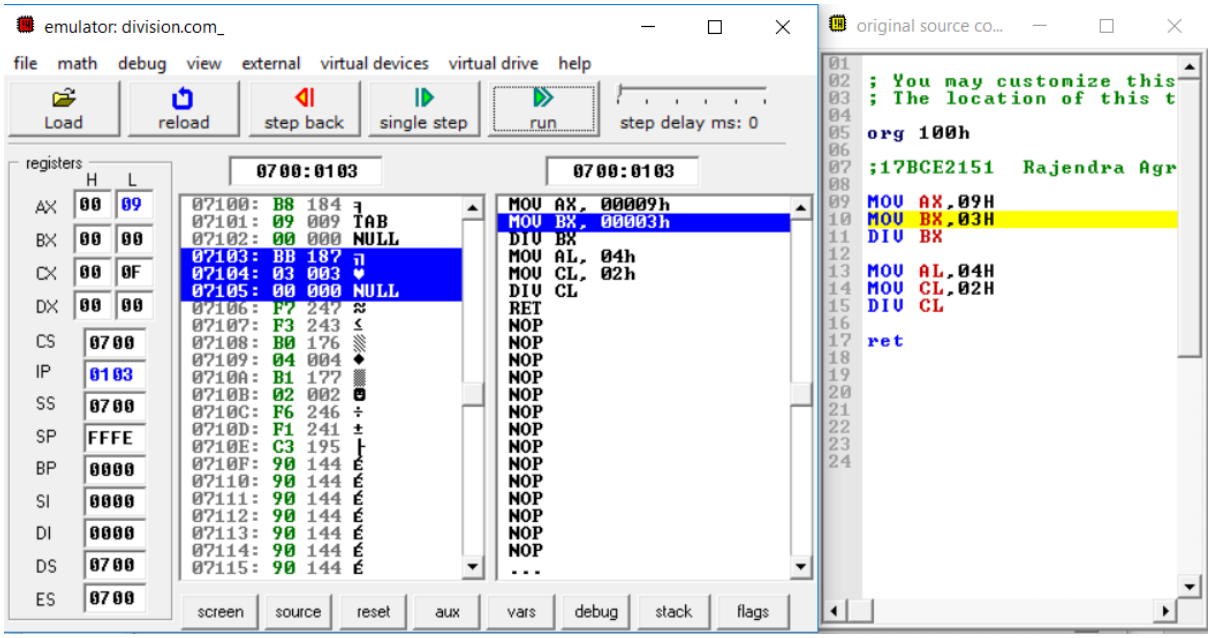



## Step by Step Execution:

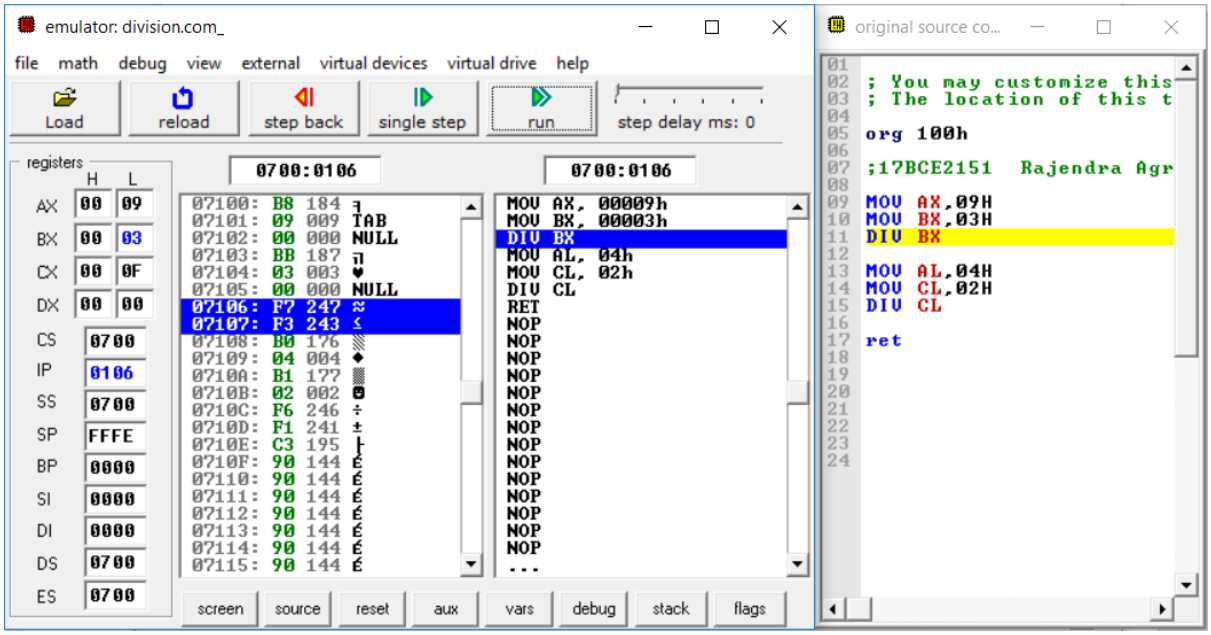
Step 1: Load the program.



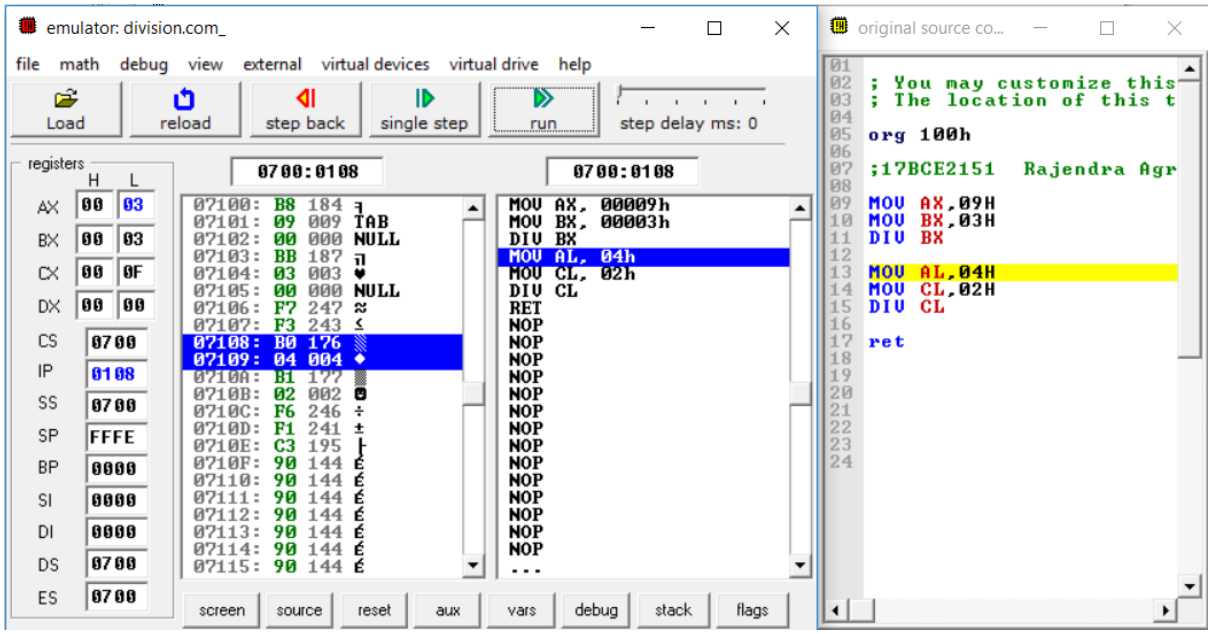
Step 2: Move 09H into AX for word mode operation.



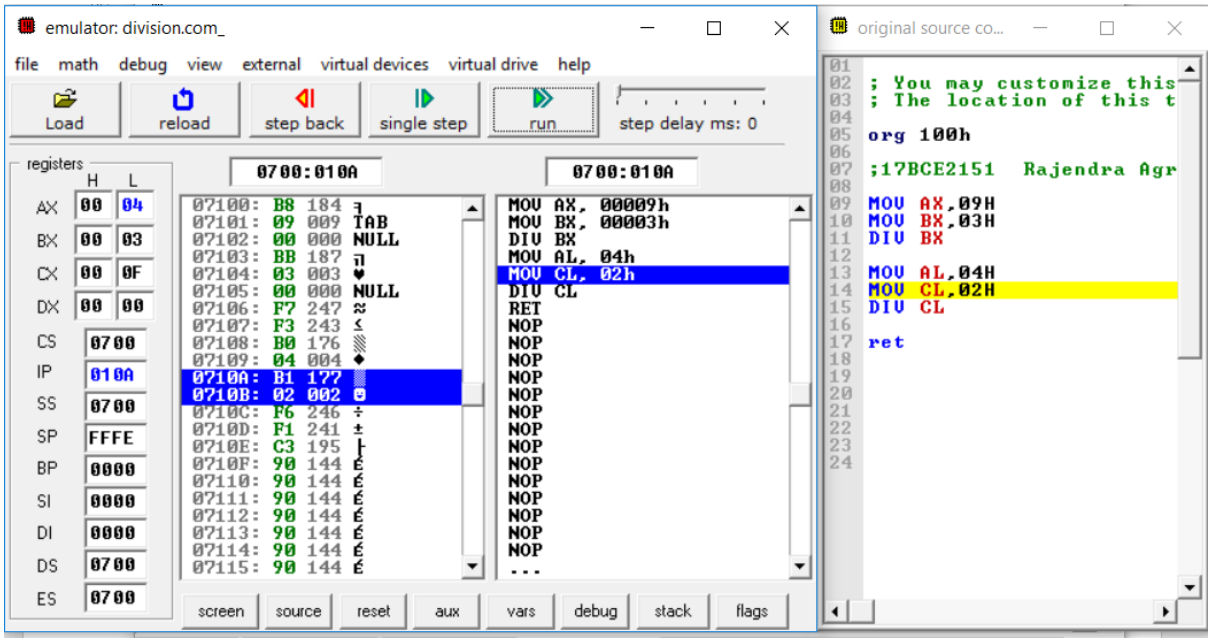

Step 3: Move 03H into BX.



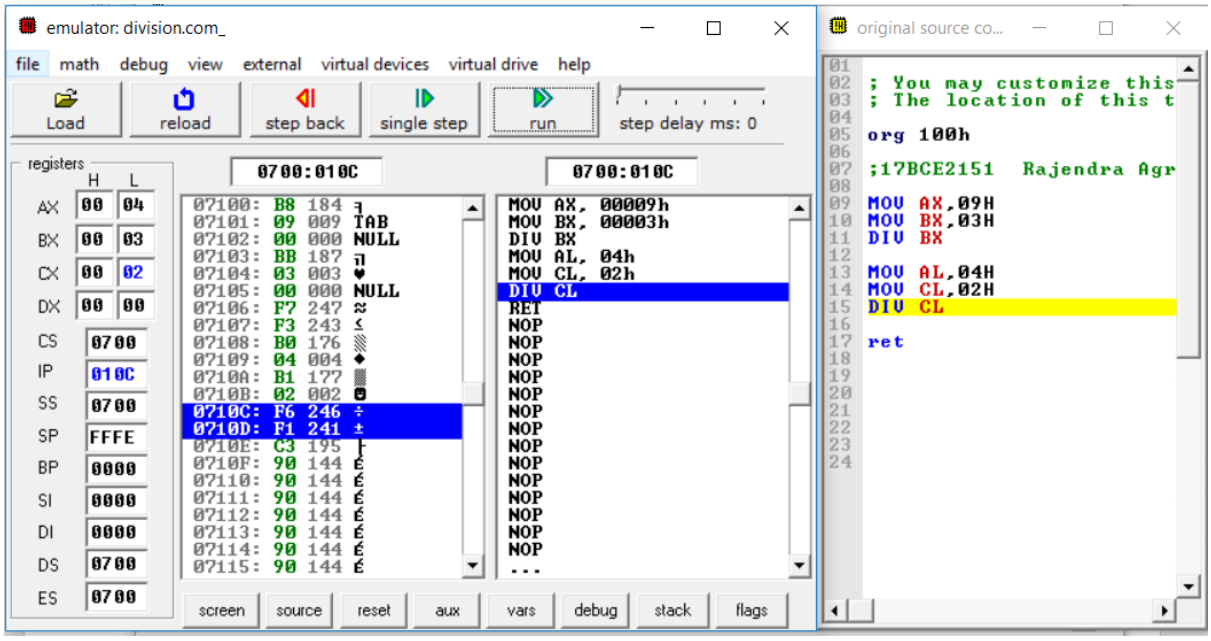
Step 4: Divide AX by BX and store result into AX.



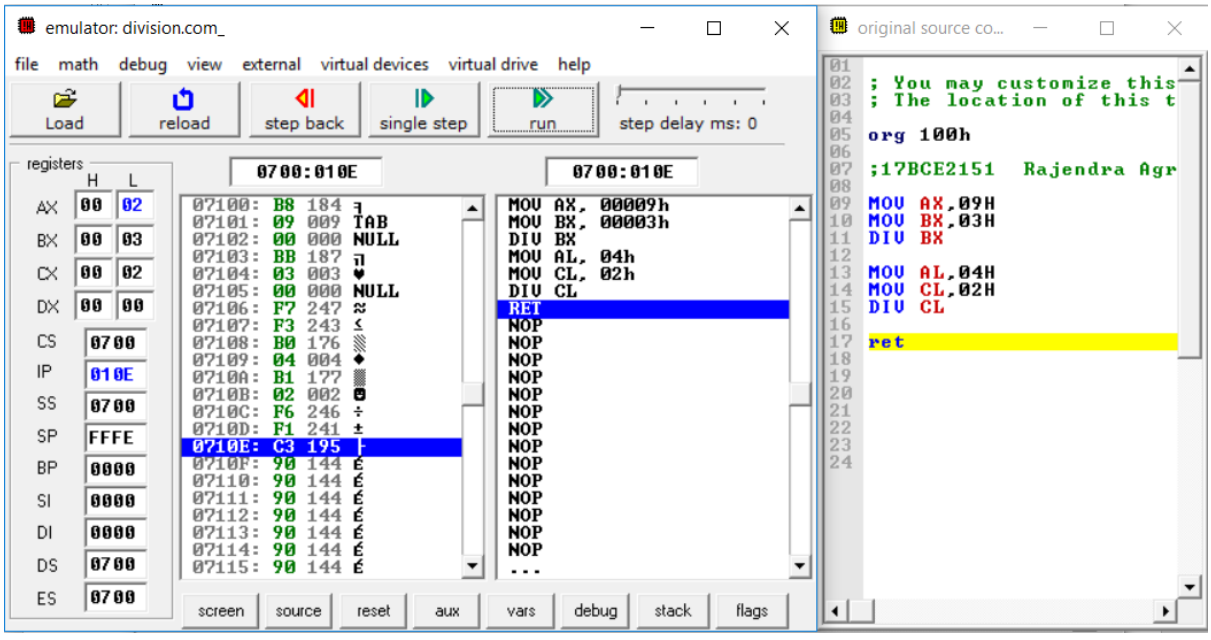

Step 5: Move 04H into AL for byte mode Operation.



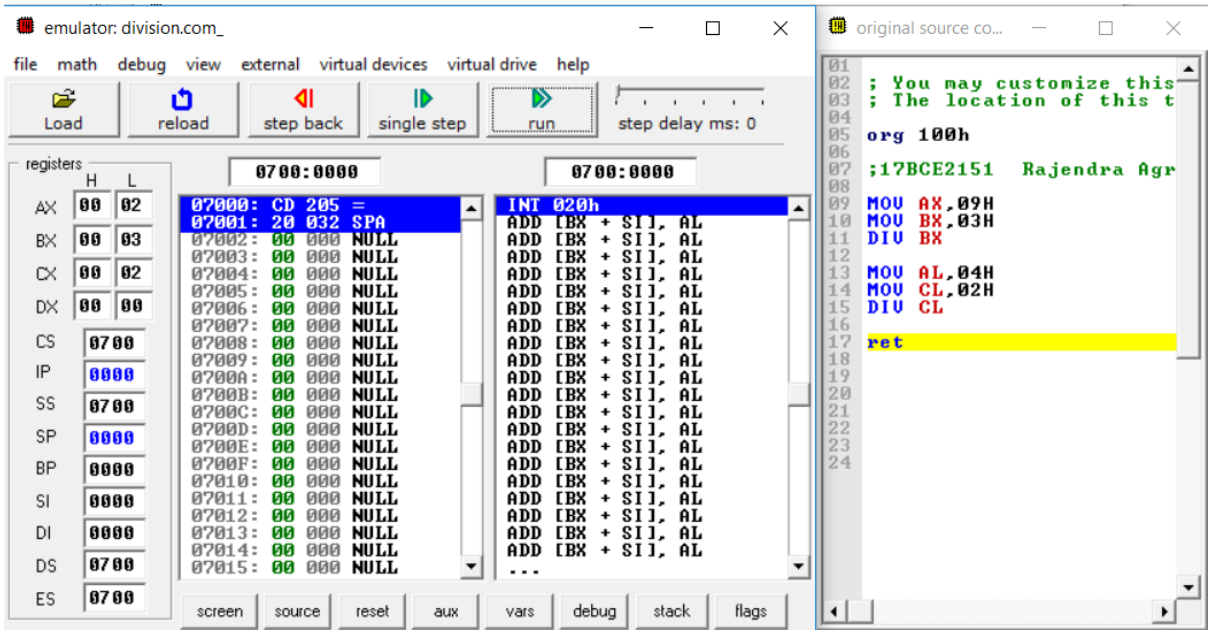
Step 6: Move 02H into CL.



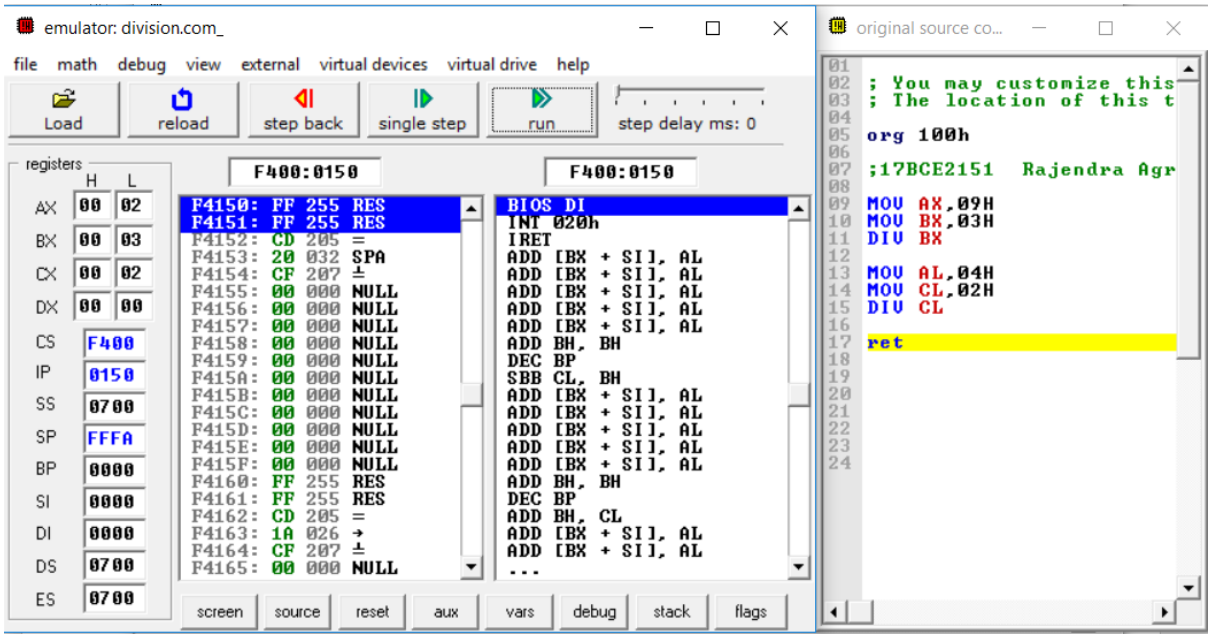

Step 7: Divide AL by CL and store result into AX.



Step 8: Executing return.




Step 9: Executing return.



Step 10: Execution complete.