



## Laboratory Report

<b>Laboratory Exercise No.:</b>	1	<b>Date Performed:</b>	Sept 1 2025
<b>Laboratory Exercise Title:</b>	Using the EMU8086 Integrated Development Environment		
<b>Name of Student:</b>	Cyril John Christian A. Calo	<b>Document Version:</b>	1

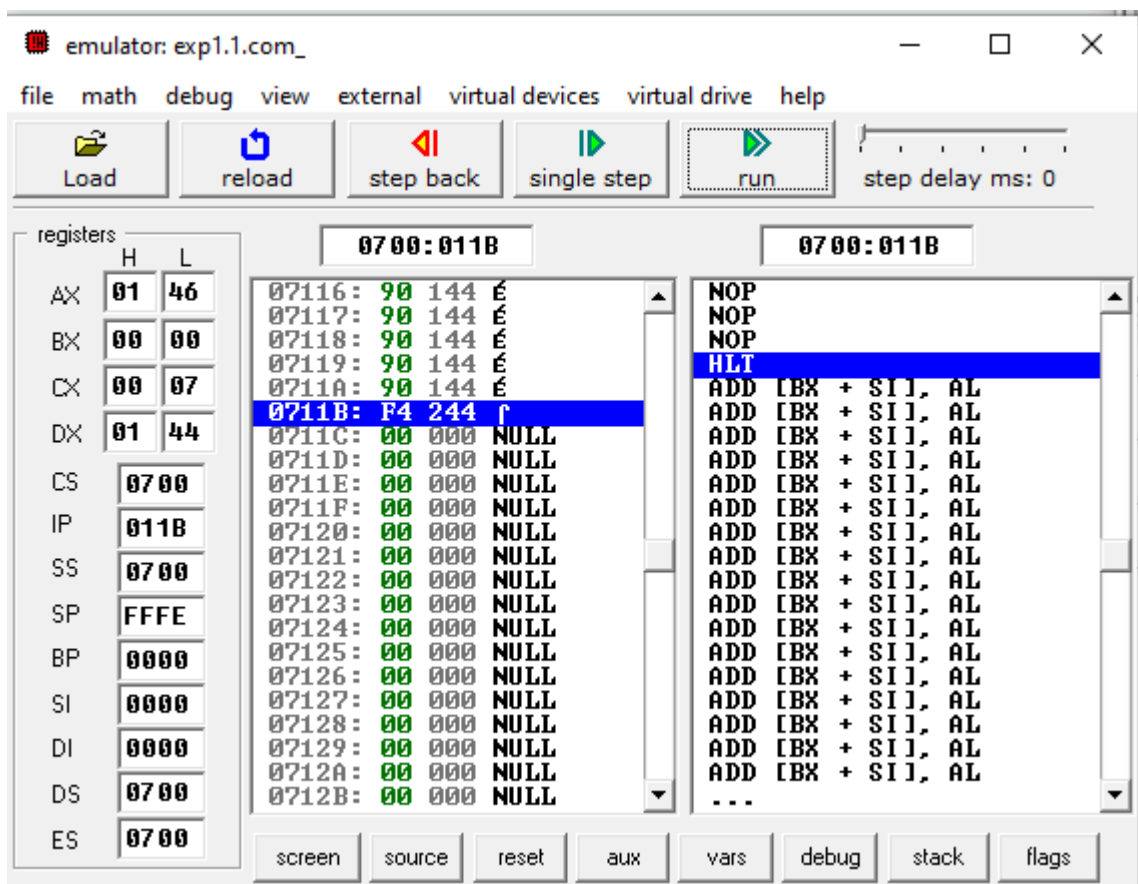
### Activity #1

<Write the calculations and solutions performed in Activity #1. Include sources codes and schematic diagrams if required in the exercise.>

Instruction	Register value after the instruction is executed
MOV DX, 0145H	DX = 0145H
MOV AX, DX	AX = 0145H
INC AX	AX = 0146H
DEC DX	DX = 0144H

```
edit: Z:\MicroProcessors\exp1.1.asm
file  edit  bookmarks  assembler  emula
new  open  examples  save
01
02  ORG 100H
03  MOV DX, 0145H
04  MOV AX, DX
05  INC AX
06  DEC DX
```

Code for EXP 1



**Final Output for EXP 1**

### Activity #2.1

<Write the calculations and solutions performed in Activity #2. Include sources codes and schematic diagrams if required in the exercise.>

Instruction	Register value after the instruction is executed
MOV BX, 0123H	BX = 0123H
MOV AX, 0456H	AX = 0456H
ADD AX, BX	AX = 0579H
SUB AX, BX	AX = 0456H
PUSH AX	NO CHANGE IN REGISTERS SP = FFFCH

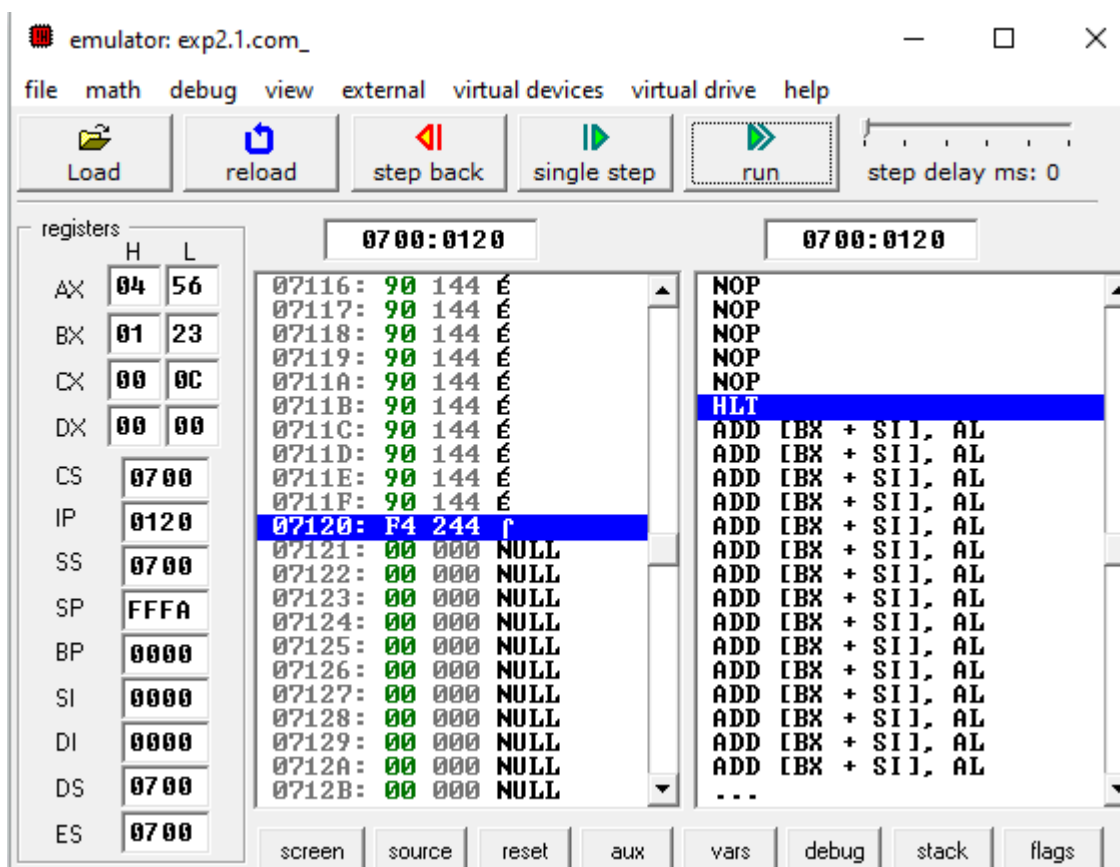
PUSH BX

NO CHANGE IN REGISTERS

SP = FFFAH

```
file  edit  bookmarks  assembler  emulator
new  open  examples  save
01  ORG 100H
02  MOV BX, 0123H
03  MOV AX, 0456H
04  ADD AX, BX
05  SUB AX, BX
06  PUSH AX
07  PUSH BX
```

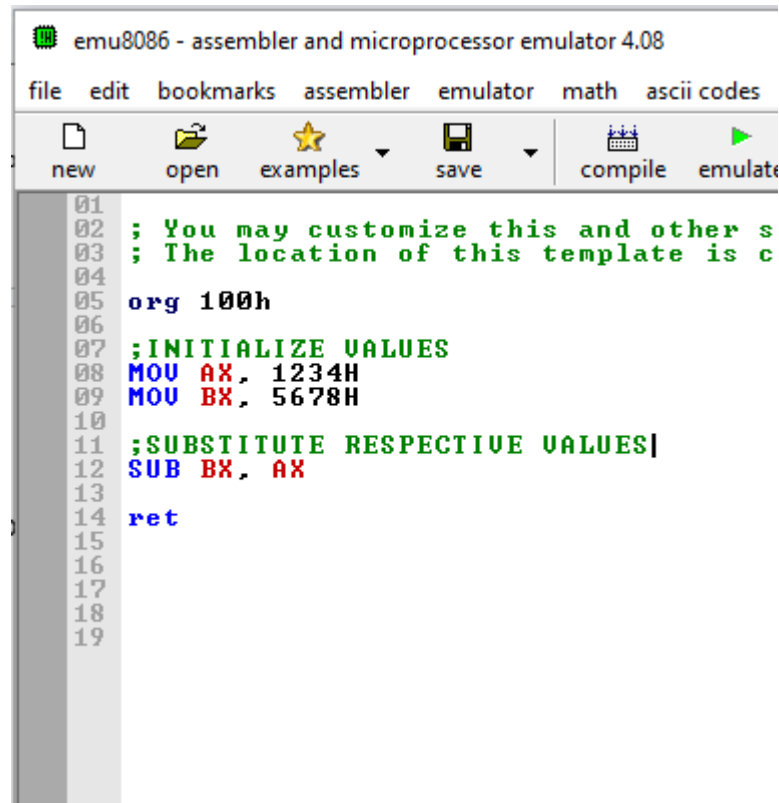
Code for EXP 2.1



Final output after execution

## Activity #2.2

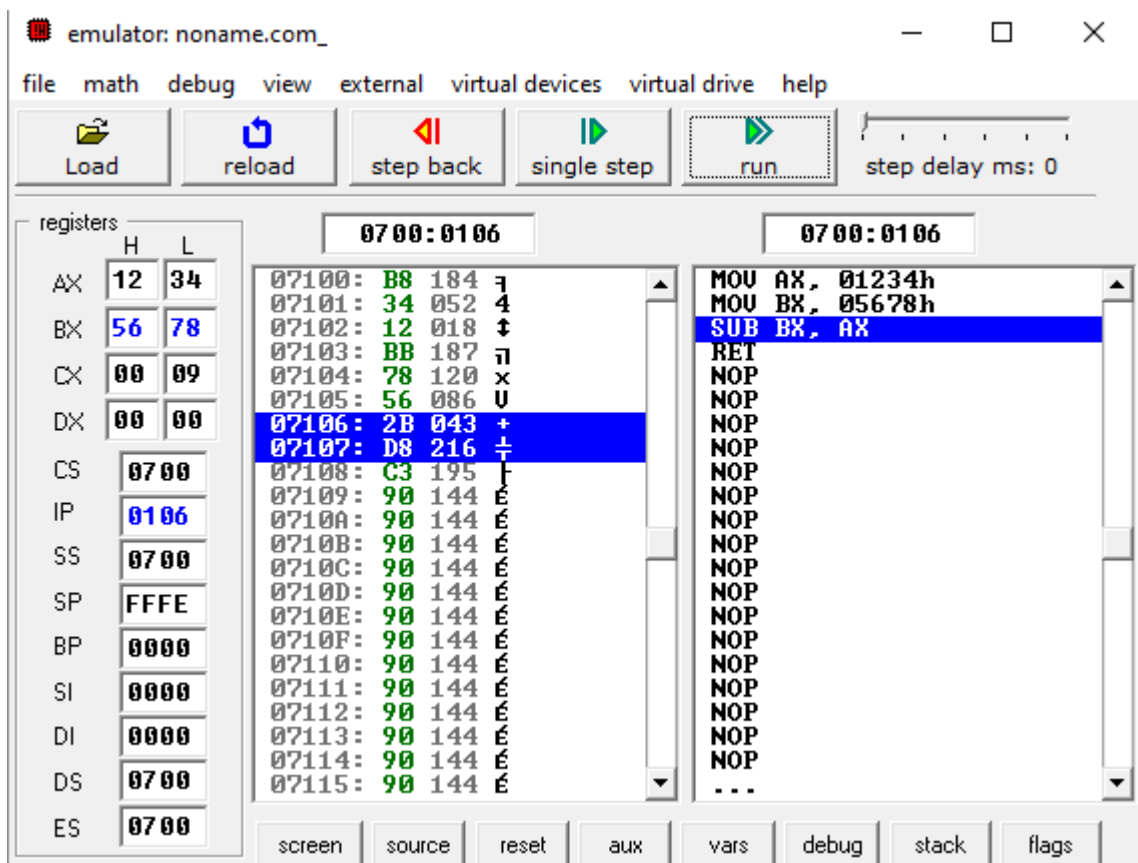
<Write the calculations and solutions performed in Activity #2.1 Include sources codes and schematic diagrams if required in the exercise.>



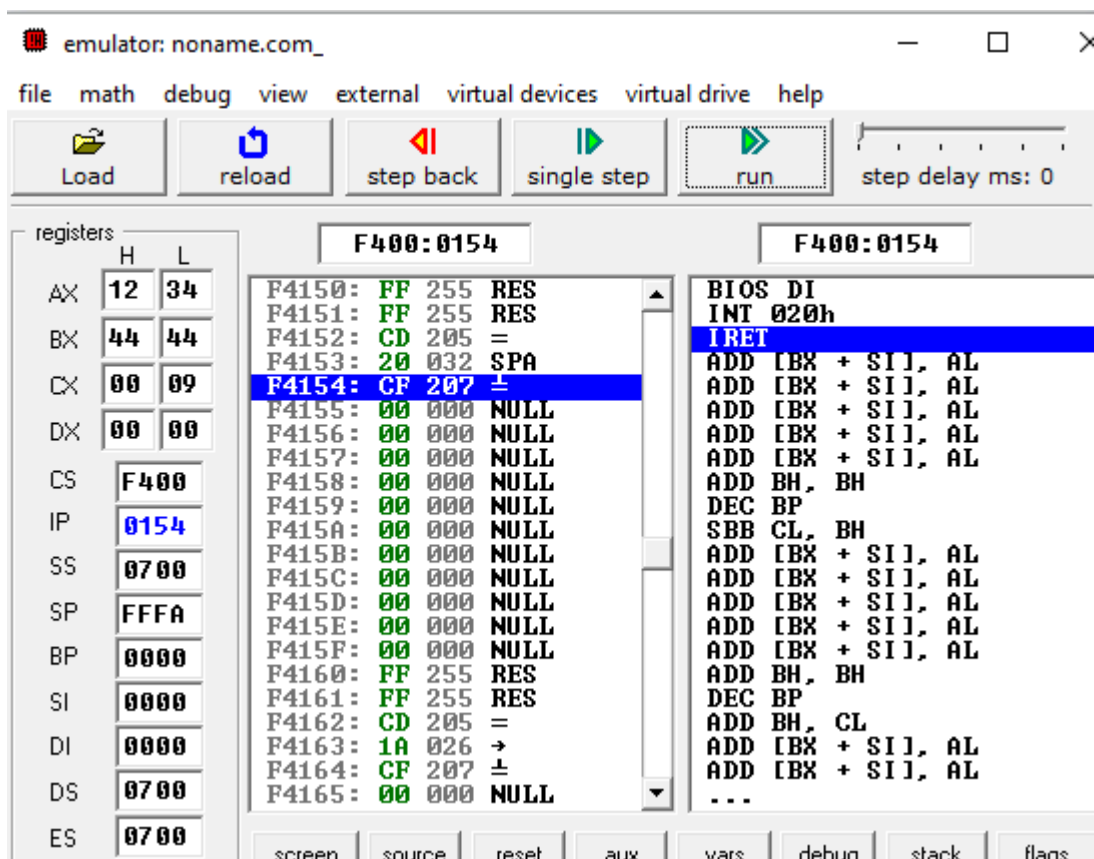
The screenshot shows the emu8086 - assembler and microprocessor emulator 4.08 window. The menu bar includes file, edit, bookmarks, assembler, emulator, math, and ascii codes. The toolbar contains icons for new, open, examples, save, compile, and emulate. The assembly code is displayed in a text area with line numbers 01 through 19 on the left. The code is as follows:

```
01  
02 ; You may customize this and other s  
03 ; The location of this template is c  
04  
05 org 100h  
06  
07 ;INITIALIZE VALUES  
08 MOV AX, 1234H  
09 MOV BX, 5678H  
10  
11 ;SUBSTITUTE RESPECTIVE VALUES|  
12 SUB BX, AX  
13  
14 ret  
15  
16  
17  
18  
19
```

**Code for Register Substitution**



Initial values of register AX and BX



**Respective AX and BX values after executing substitution operation**

## References

<Write the references you have used if any. References can be a textbook, web article (as long as reliable) and journals.>