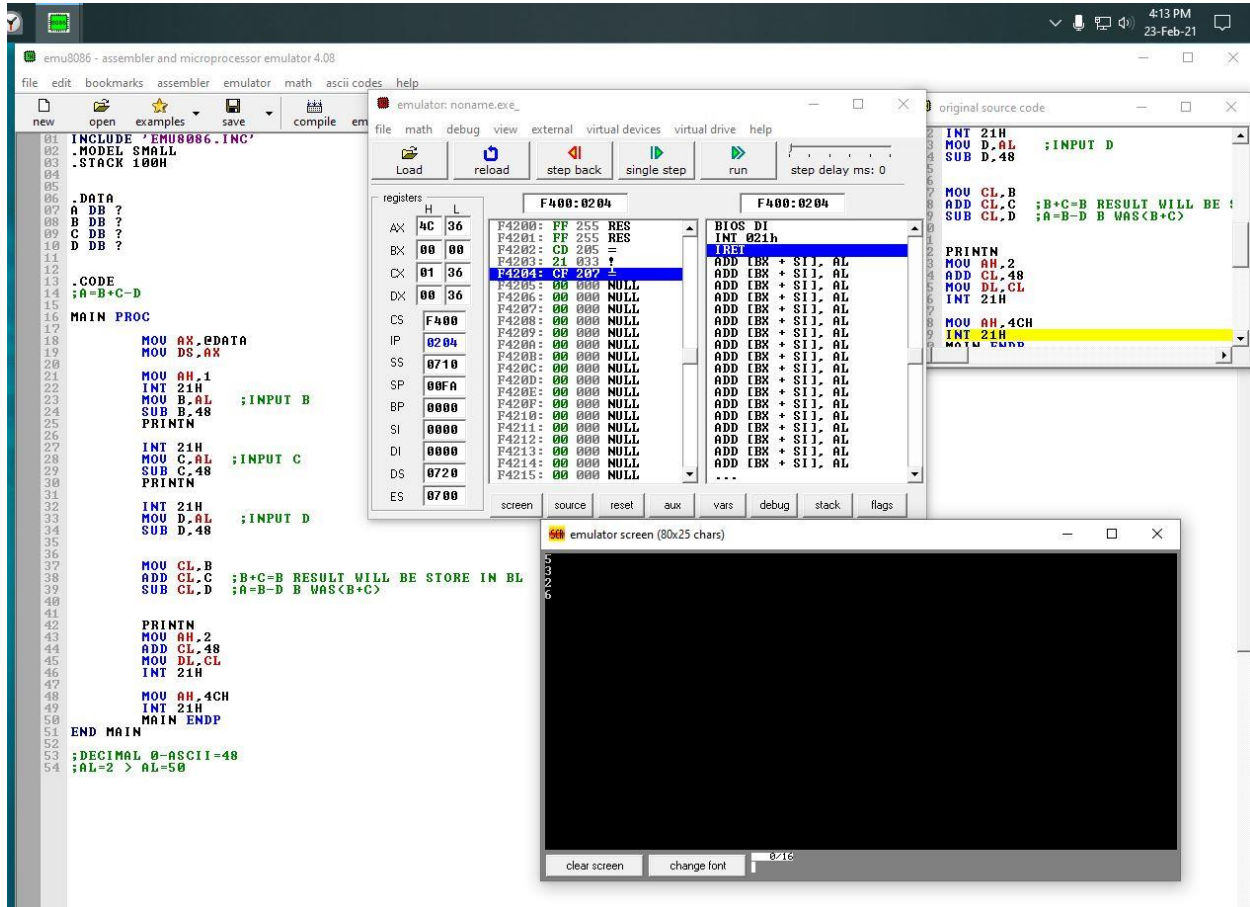
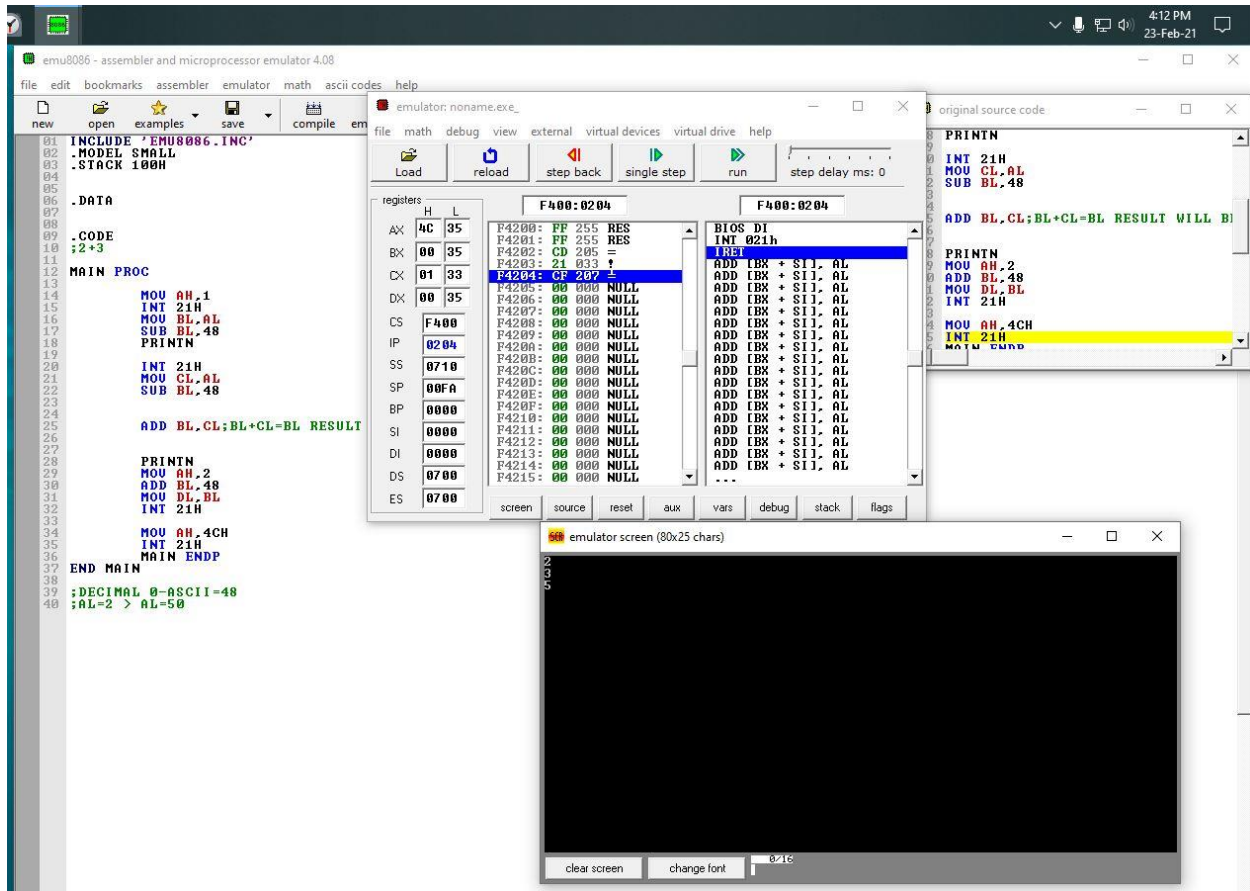


Class Code:



Lab Task – 03: Write a program to Solve: $X=Z+Y$ Where $Y= A-B+C$

The screenshot displays the emu8086 emulator interface. The main window shows the assembly code for a program that calculates $X=Z+Y$ where $Y=A-B+C$. The code is organized into sections: .DATA, .CODE, and MAIN PROC. The .DATA section defines variables A, B, C, Y, and Z. The .CODE section contains the logic for input, calculation, and output. The MAIN PROC section is the entry point of the program. The registers window shows the current state of the CPU registers, with AX, BX, CX, DX, IP, SP, BP, SI, DI, and DS. The original source code window shows the assembly code in a more readable format. The emulator screen window shows the output of the program, including the input values for A, B, C, and Z, and the calculated value for X.

```
.STACK 100H
.4096
.DATA
A DB ?
B DB ?
C DB ?
Y DB ?
Z DB ?
.CODE
;V=A-B+C
;X=Z+Y
MAIN PROC
MOV AX, PDATA
MOV DS, AX
;INPUT OF A
PRINT "ENTER THE VALUE OF A: "
MOV AH, 1
INT 21H
MOV A, AL
SUB A, 48
PRINTM
;INPUT B
PRINT "ENTER THE VALUE OF B: "
MOV AH, 1
INT 21H
MOV B, AL
SUB B, 48
PRINTM
;INPUT C
PRINT "ENTER THE VALUE OF C: "
MOV AH, 1
INT 21H
MOV C, AL
SUB C, 48
PRINTM
;INPUT Z
PRINT "ENTER THE VALUE OF Z: "
MOV AH, 1
INT 21H
MOV Z, AL
SUB Z, 48
PRINTM
MOV CL, A
SUB CL, B ;A=A-B
ADD CL, C ;Z=C-A+B
ADD CL, Z
PRINTM
PRINT "X=Y+Z= "
MOV AH, 2
ADD CL, 48
MOV DL, CL
INT 21H
PRINT " <WHERE Y=A-B+C>"
MOV AH, 4CH
INT 21H
MAIN ENDP
END MAIN
;DECIMAL 0-ASCII=48
;AL=2 > AL=50
```

Registers:

| Register | H | L |
|----------|------|------|
| AX | 4C | 39 |
| BX | 00 | 00 |
| CX | 02 | 39 |
| DX | 00 | 39 |
| IP | F400 | 0204 |
| SP | 0710 | 00FA |
| BP | 0000 | 0000 |
| SI | 0000 | 0000 |
| DI | 0000 | 0000 |
| DS | 0720 | 0000 |
| ES | 0700 | 0000 |

Original Source Code:

```
ADD CL, Z
PRINTM
PRINT "X=Y+Z= "
MOV AH, 2
ADD CL, 48
MOV DL, CL
INT 21H
PRINT " <WHERE Y=A-B+C>"
MOV AH, 4CH
INT 21H
MAIN ENDP
```

Emulator Screen (80x25 chars):

```
ENTER THE VALUE OF A: 5
ENTER THE VALUE OF B: 2
ENTER THE VALUE OF C: 3
ENTER THE VALUE OF Z: 3
X=Y+Z= 9 <WHERE Y=A-B+C>
```