Lab 4

Sara Frazer

11/15/23

CDA 3203 Computer Logic Design

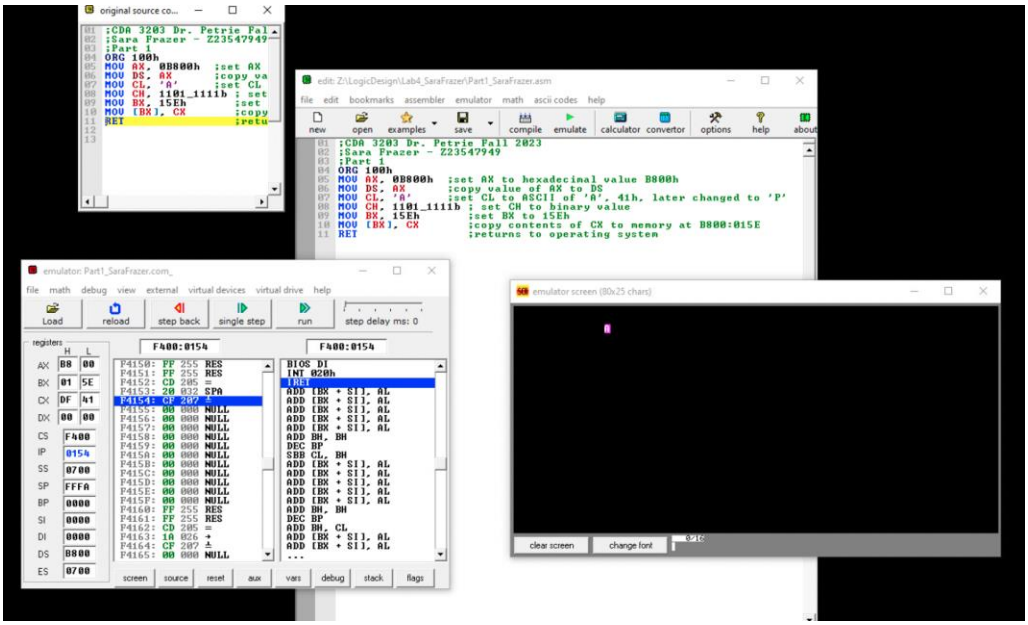
Fall 2023

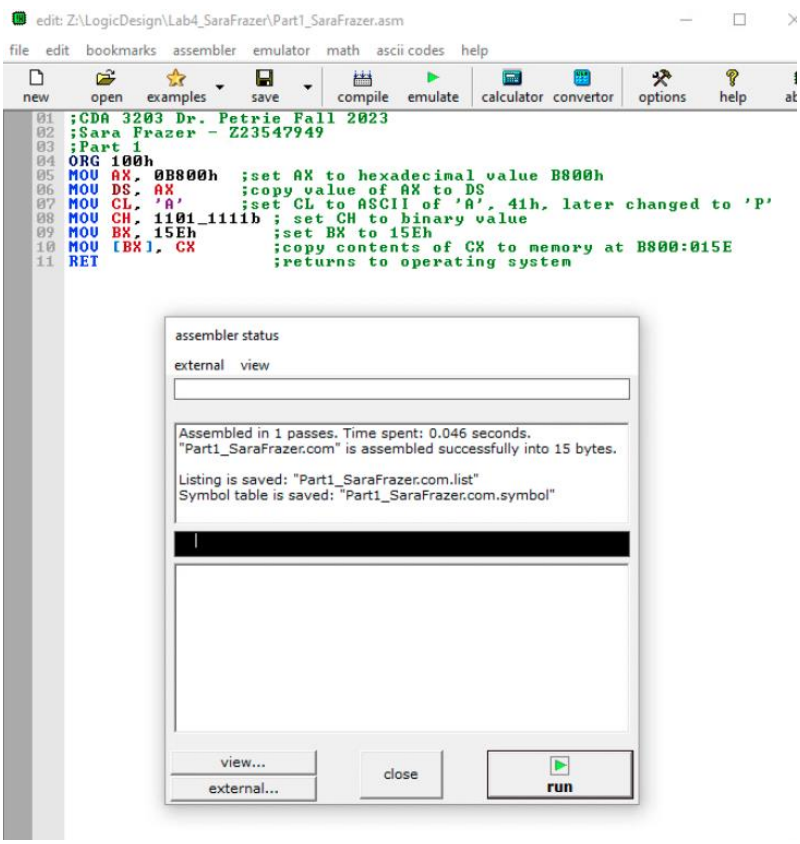
Dr. Maria Petrie

Florida Atlantic University

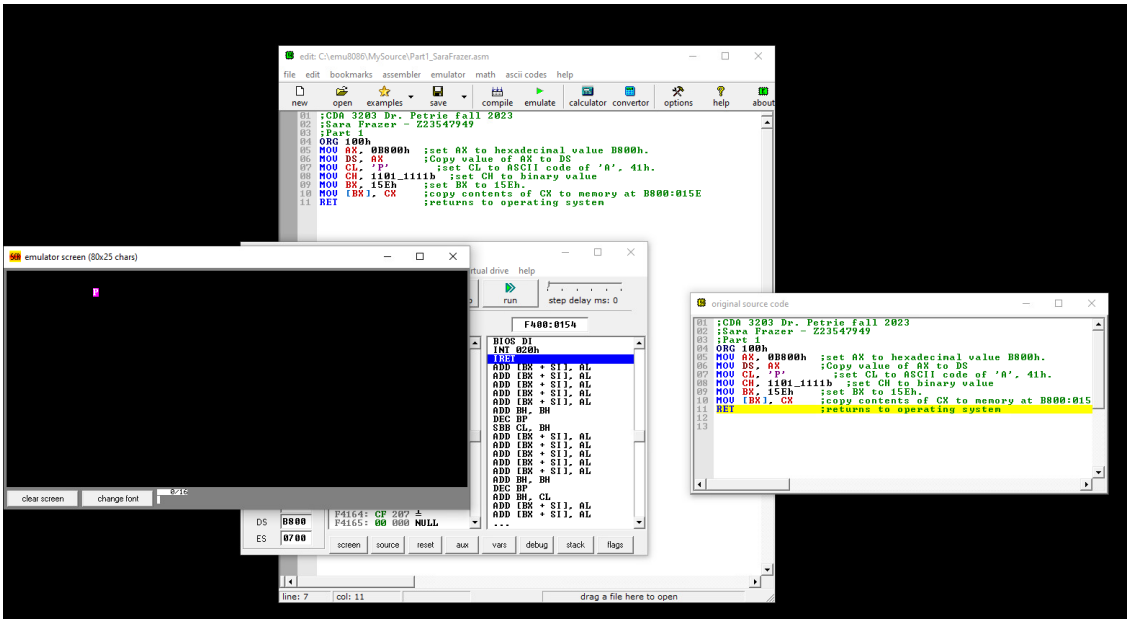
Part 1

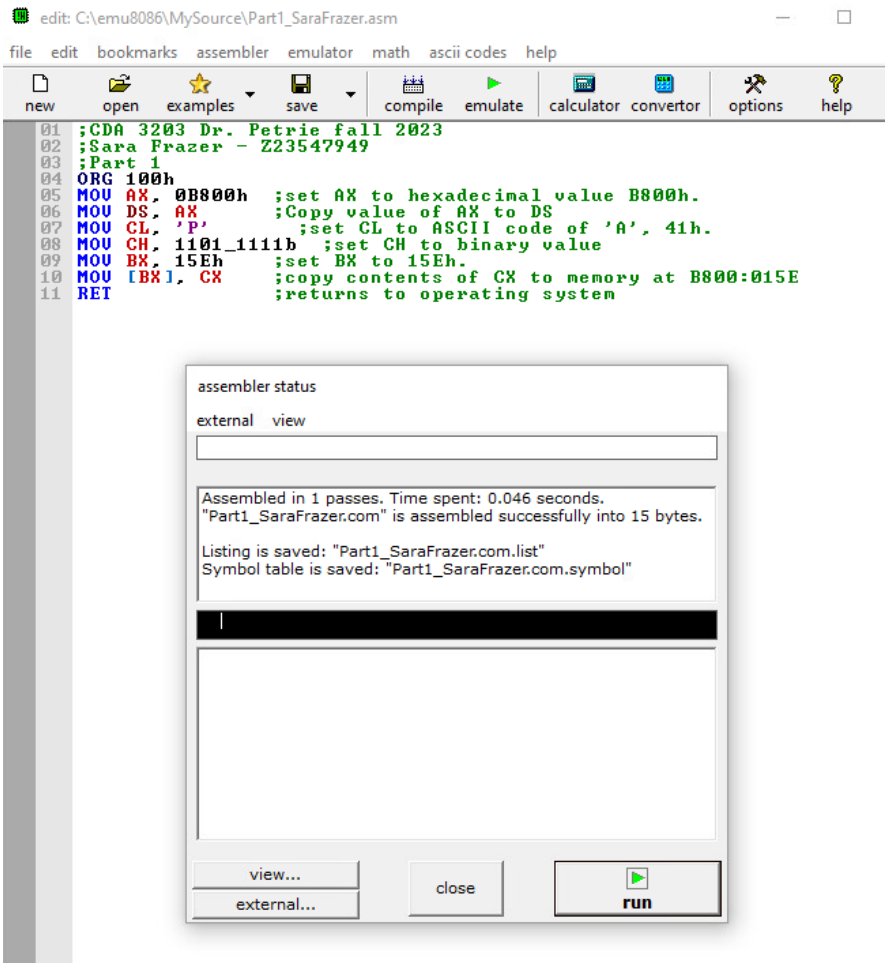
Snip of editor window that displays ‘A’ on emulator screen with successful compilation window



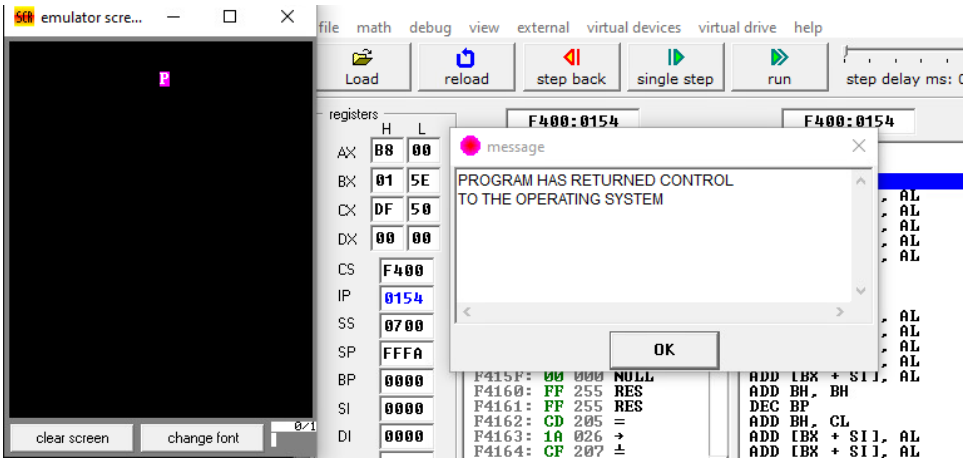


Snip of emulator window containing machine code to display ‘P’

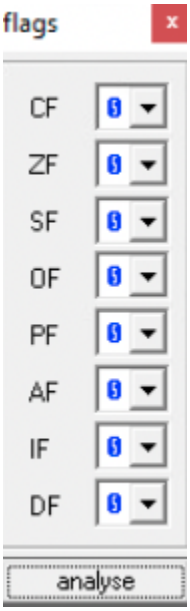




Snip window displaying message



Flags Window



Hand work

Write the HEX Machine Code for each Assembly Instruction

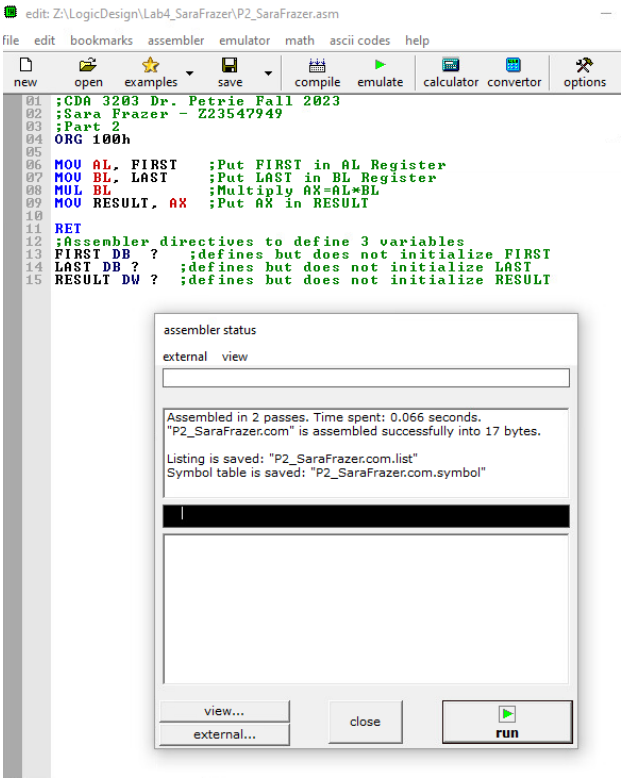
1. MOV AX, 0B800h B800B8
2. MOV DS, AX 8ED8
3. MOV CL, 'A' B141
4. MOV CH, 1101_1111b B5DF
5. MOV BX, 15Eh BB5E01
6. MOV [BX], CX 890F
7. RET C3

8. The CS:IP address of the first instruction is 0700 0100
9. The CS:IP address of the last instruction is 0700010E
10. What is the **Effective Address** of the first instruction?
    Show work of how you calculated the physical address.

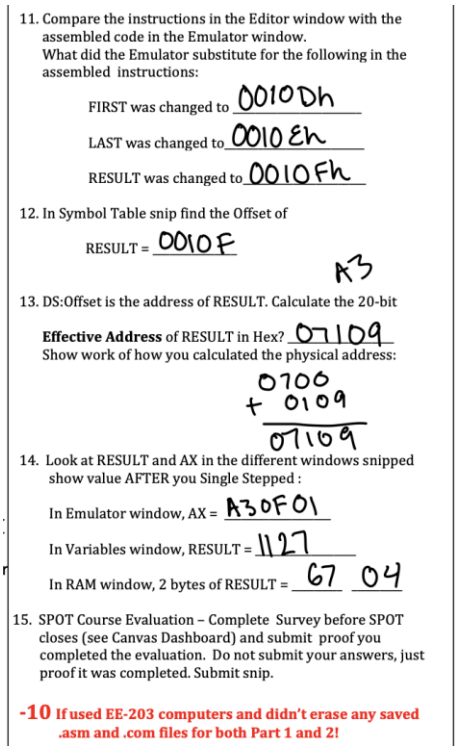
```
 0700
+0000
------
 0700
```

Part 2

Successful Compilation



Hand Work



11. Compare the instructions in the Editor window with the assembled code in the Emulator window.
What did the Emulator substitute for the following in the assembled instructions:

FIRST was changed to 0010Dh

LAST was changed to 0010Eh

RESULT was changed to 0010Fh

12. In Symbol Table snip find the Offset of

RESULT = 0010F

A3

13. DS:Offset is the address of RESULT. Calculate the 20-bit

Effective Address of RESULT in Hex? 07109

Show work of how you calculated the physical address:

0700
+ 0109
07109

14. Look at RESULT and AX in the different windows snipped show value AFTER you Single Stepped :

In Emulator window, AX = A30F01

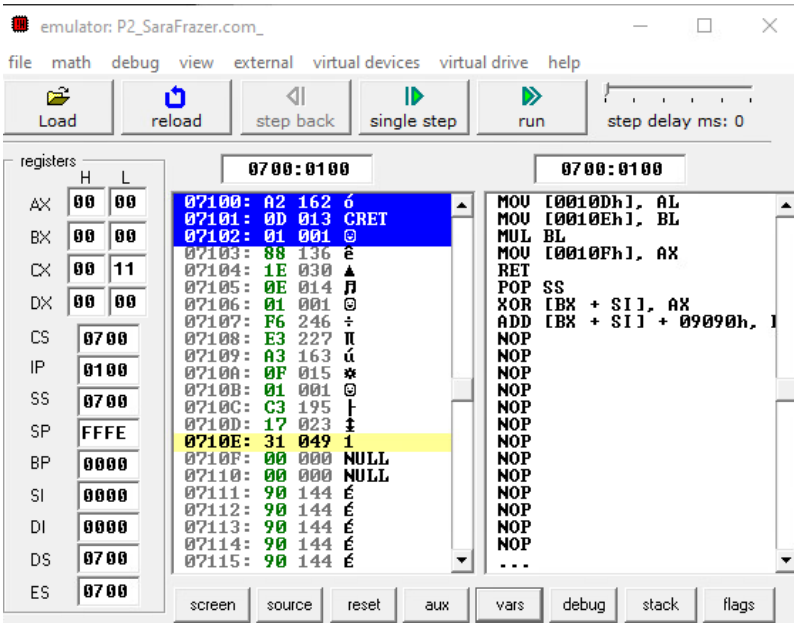
In Variables window, RESULT = 1127

In RAM window, 2 bytes of RESULT = 67 04

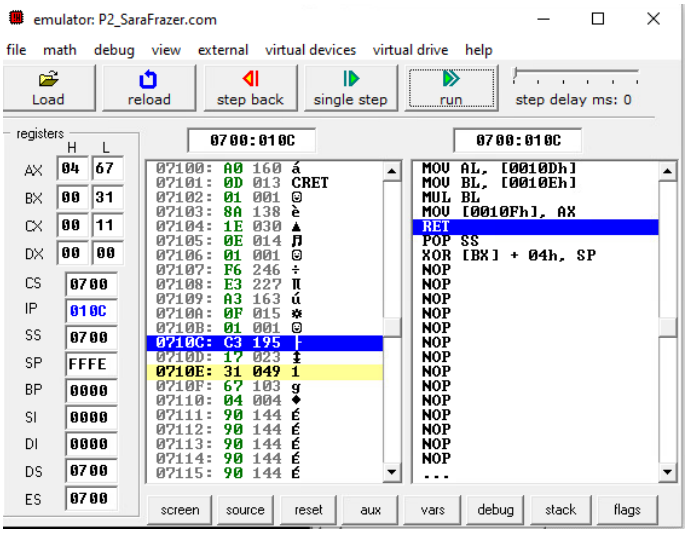
15. SPOT Course Evaluation – Complete Survey before SPOT closes (see Canvas Dashboard) and submit proof you completed the evaluation. Do not submit your answers, just proof it was completed. Submit snip.

-10 If used EE-203 computers and didn't erase any saved .asm and .com files for both Part 1 and 2!

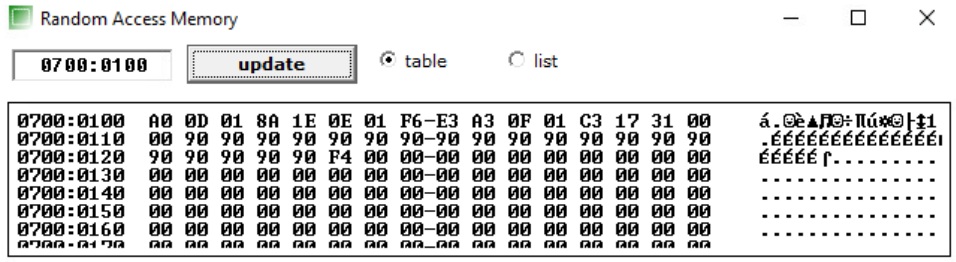
Before Running Code



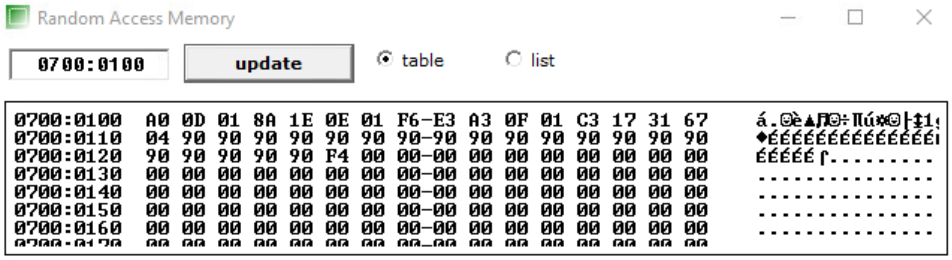
After Running Code



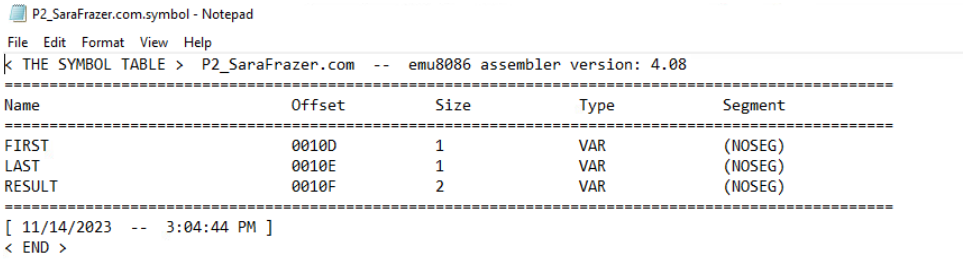
RAM Window Before



RAM Window After



Symbol Table



Variables After Run