CS1428 Lab 07h

# Name: Section:

In this lab you will continue to developing a VERY simple programming language for a VERY simple processor. You may use the starter code from my website.

1. (15 pts) We are modifying last lab to read the files all-at-once into memory. That means we need somewhere to store what is in the file. How would we store our instructions, if we will have a maximum of 512 lines with each instruction having 4 separate parts? (Hint: Think 2D array) **[Do not modify your existing MEMORY array, you still need that]**.
2. (15 pts) How would you write a loop that reads every instruction line from the input file and puts them into the array? Remember you only have 512 instruction slots so don’t go over.
3. (20 pts) Write the loop that will iterates through the instructions in the array AND modify the switch statement below to use the new array-based way of reading instructions. (ONLY MODIFY THE SWITCH STATEMENT BELOW, YOU WILL MODIFY ALL OTHERS LATER IN YOUR PROGRAM).

switch(instruction)

{

case 0: memory[data0]=memory[data1] + memory[data2]l

}

1. (50pts) Using the segments you have written above and what you did in last lab, combine them into a single program (**lab07h.cpp**) that:
   1. Reads the program all at once into memory
   2. Convert the 4 basic mathematical operations (add, subtract, multiply, divide) to functions and call them from the cases.
   3. Goes through instructions array one at a time
   4. Modify ALL of the switch cases to accommodate our new matrix schema
   5. Properly handles the programs from last time

**(\*\*Make sure to include the standard header and to name the file correctly\*\*)**