Final Exam Programming Section

A substantial portion of this lab must be done in my presence to verify the exam. Parts of this exam can be developed outside the lab but be prepared to explain the exam verbally.

Questions to think about as you start to code your algorithm:

- What type of loops are to be used?
- What variables do you need?
- What values are you computing?
- What needs to be done before you start any loops?
- What happens inside the loop?
- What happens after the loop terminates? Are conditional statements needed?

You will be able to select a topic of your choice. Payroll and the houses lab ***are not*** allowed as topics.

Some suggestions:

- Sales for a business for each of the 12 months of the year, with a total sales for the year
- Sports (Football, basketball, baseball, soccer, Etc).
- Cities.
- Students.
- Other of your choice

1. Set up a declaration for a class or a structure for the following information for your topic. It should at least 4-5 fields. You should have at least one field which must be calculated and one field which should be able to have ***if*** statements which can be applied to it.

2. Set up a declaration for an array of the topic you select in part 1 which can have at least 3 members.

3. Write a function which will read or calculate (your choice) one of the members of your structure or object and return changes back on completion.

4. Write a main program which will combine parts 1, 2 and 3 in a main program for the number of slots in your array:

   Your program should demonstrate input, processing (if statement(s) and calculations) and output. Use of at least one user defined function is required.

   In addition, assume that the function definition for part 3 is located after the main program and write the function prototype and place it appropriately.

The program should be able to be compiled and function properly, but it does not have to a complete real world project.