

## PRACTICE EXERCISES - LAB 3 (Lists)

1. Modify the program that finds the maximum value so that it finds the minimum in the list instead of the maximum. Test to make sure your solution works.
2. Modify the program so that it finds the **index** of the minimum in the list rather than the minimum itself.
3. Modify the bubble sort program so it implements the following improvements.
  - a. In the first pass through the list, the largest value "bubbles up" to the last position. Once it is there, there is no need to compare it to any other values in subsequent passes. The same holds true for the 2<sup>nd</sup>-largest value during the 2<sup>nd</sup> pass, and so on.
  - b. If the list is already sorted, do not perform any more iterations. You can tell if the list is already sorted if you don't perform any swaps as you scan through the list comparing adjacent values. Create a new variable initially set at 0 before you start each pass and set it to 1 only if you swap. At the end of each pass, if the variable is 0, then you're done. (HINT: To exit the outside loop if the list is already sorted, simply change the loop variable to equal the last value so the loop will terminate.)