

## CSci 3501 Assignment 3

Due Friday, September 15th in class

**Problem 1 (8 points).** Exercise 2.1-2 p. 22. Write pseudocode for the procedure.

**Additionally,** write the loop invariant for the outer loop of the new procedure and prove that it holds. You may assume the needed property of the inner loop, as the textbook does for insertion sort.

**Problem 2 (10 points).** Exercise 2-2 p. 40. As a hint for question **a**, consider the loop invariant for the insertion sort, and think of how the work of this algorithm is different from that of insertion sort. For part **d** prove the worst-case efficiency similarly to the proof for the insertion sort (see pp. 26-28).