Quiz 8 was given in class on Wednesday, November 4, 2009.

1. [2 pts] What is “exception neutrality”?

A function is exception neutral if, whenever it calls a client-provided function, and that function throws an exception, the exception is propagated unchanged to the client code.

2. [3 pts total] In each part below, use big-$O$ to indicate the order of the given operation for a smart array and for a Linked List. You should assume that good choices are made: data structures are designed and implemented well, and efficient algorithms are chosen.

2a. [1 pt] Insert a given item at the beginning of the Sequence.

**Array:** $O(n)$.

**Linked List:** $O(1)$.

2b. [1 pt] Sort the entire Sequence.

**Array:** $O(n \log n)$.

**Linked List:** $O(n \log n)$.

2c. [1 pt] Search for a given value in a Sequence that is already sorted.

**Array:** $O(\log n)$.

**Linked List:** $O(n)$.