COS 485 — Homework 7

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Problem 1

Algorithm	**Technique**	**Justification**
Insertion sort	Iterative Improvement	Go through each element starting at position 0. Shift all of the elements greater than the current one to the left.
Selection sort	Greedy	Find the minimum value, swap it with the item at position 0.
Bubble sort	Greedy	If the next value is smaller than the current one, swap them.
Quicksort	Divide and Conquer	Divide the problem size recursively, sort at the bottom, then sort on your way up. Note that Quicksort *can* be implemented with a randomized partition.
Merge sort	Divide and Conquer	Divide the problem size recursively, sort at the bottom, then sort on your way up.
Heap sort	Greedy	Larger values go higher (maxheap), or smaller values go higher (minheap)

Problem 2