

CS 1713 Diagnostic Quiz on Sorting — Spring 2009

- 1) Modify the following selection sort to sort an array of **String**.

```
public static void selectionSort(int [] list) {
    for (int index = 0; index < list.length - 1; index++) {
        int min = findMinPosition(list, index);
        int temp = list[min];
        list[min] = list[index];
        list[index] = temp;
    }
}

public static int findMinPosition(int [] list, int start) {
    int min = start;
    for (int scan = start + 1; scan < list.length; scan++)
        if (list[min] > list[scan])
            min = scan;
    return min;
}
```

- 2) Modify the following insertion sort so that it sorts in reverse order.

```
public static void insertionSort (int [] list) {
    for (int index = 1; index < list.length; index++) {
        insertItem(list, index);
    }
}

public static void insertItem(int [] list, int index) {
    int key = list[index];
    int position = index;

    // shift larger values to the right
    while ((position > 0) && (key < list[position-1])) {
        list[position] = list[position-1];
        position--;
    }
    list[position] = key;
}
```