* **Due** Sunday by 11:59pm

**Exercises - Sorting (Part One)**

Answer the following questions by implementing the code samples and/or answering the questions in a word document. Upload all project files and word documents zipped to the exercise dropbox.

1. Sort the sequence {4, 14, 2, 31, 22, 0, 8, 12} using the following algorithms. For each algorithm show the state of the sequence after each iteration of the algorithm:

a) Bubble sort

b) Insertion sort

c) Selection sort

2. Write the routines for insertion sort and selection sort.

3. What is the running time of insertion sort if all elements are equal?

4. Write a routine that generates a random array of integers, called generateArray(). Use generateArray() to test your routines from (2).

5. Show the steps when sorting [45, 12, -6, 0, 13, 33, 114, 50] using merge sort.