# Assignment 9

# Sorting

You must implement one sorting algorithm that is O(n2) and one sorting algorithm that is O(n log2 n). You will be sorting an array of doubles, which you can randomly generate. You cannot choose Bubble Sort as your O(n2) algorithm.

When you are done I would like a document (for example MS Word) where you clearly explain the difference in growth between the two, using a table and optionally a graph to help explain. The explanation should be less than 100 words, and clearly state what sorting algorithms you selected, and which is superior as n grows larger.

**Warning** – I know that there are hundreds of implementations of the sorting algorithms on the web and you are allowed to look at them, and get the ideas, but you are **NOT** **allowed to copy directly**. Our textbook also has many of the sorting algorithms implemented.

Submit your document and your well commented java files.

You will need timing code to make a useful table, that may look like this:

long start = System.currentTimeMillis();

mergeSort(list);

long end = System.currentTimeMillis();

System.out.println("Merge took: " + (end - start) + "milliseconds");