Complete the following:

1) Create a tester class named SortSearchApp which generates and fills a 31 element array with randomly generated numbers from 0 – 100. Name this array: double[] Array1. This class SortSearchApp should then invoke methods in class Sort and class Search (shown below) to:

   a) Sort Array1 from **highest to lowest** using *each* of the 3 sort methods. Each class Sort method should return the sorted array. Printout Array1 before sorting and after sorting by each of the 3 methods. Display 3 decimal place accuracy in the output.

   b) Search Array1 for the middle 3 values and return these values using *both* of the search methods listed below. Printout Array1 before searching and after searching utilizing each of the 2 methods of class Search. Display 3 decimal place accuracy in the output.

2) Create a class named Sort which imports a double[] array and returns the same double[] array sorted using **each** of the 3 methods:

   a) Selection Sort
   b) Merge Sort
   c) Quicksort

3) Create a class named Search which imports a double[] array and returns the middle 3 values using **both** of the 2 methods listed below:

   a) Linear
   b) Binary

4) Create an MS Word document containing the three classes and all input/output as an email attachment sent to mheinen_1@ NLT midnight, Wednesday, December 4, 2013.