**Computer Science I** **Java**

**Unit Six Assignment One:**

Write a Java project (applet) that will compare the Selection Sort to the Insertion Sort. Your applet should contain just one JTextArea. The JTextArea will begin with the heading "Unsorted Array", followed by the first line (15 integers) of the array, followed by 3 dots, followed by the last line (15 integers) of the array. Next the JTextArea will contain the heading "After Selection Sort", followed by the first line (15 integers) of sorted data, followed by 3 dots, followed by the last line (15 integers) of sorted data, followed by the number of milliseconds it took to sort the data using the Selection Sort. Next the JTextArea will contain the heading "After Insertion Sort", followed by the first line (15 integers) of sorted data, followed by 3 dots, followed by the last line (15 integers) of sorted data, followed by the number of milliseconds it took to sort the data using the Insertion Sort. Your applet should look similar to the applet included with this assignment.

Your project should contain a buildArrays() method. In this method use the java.util.Random class to fill two arrays with 10000 identical random integers between 0 and 999, inclusive. One of the arrays will be used for the Selection Sort the other one for the Insertion Sort.

Your project should also include two methods to complete and time each of the sorts. If you are up for a challenge, develop a sorting class that contains these methods.

Obviously, because of the GUI, your project will have an init() method that basically calls the other methods.

Paste your output into a Word document (use landscape orientation) and turn it in with your code.