COMP 3160 – Fall 2014
Project 2: A Sorting Visualizer

Number of People: Individual

Due: Tuesday, Dec. 2 by 1:00 pm

Submission: Zip all of your Java source files (you can zip the entire project folder if using an IDE) into a single file and upload it to the proper folder in the eCourseware dropbox at https://elearn.memphis.edu.

Coding Style: Use descriptive variable names. Use consistent indentation. Use standard Java naming conventions for **variableAndMethodNames**, **ClassNames**, **CONSTANT_NAMES**. Include a reasonable amount of comments.

Grader: TA, Kyle Cherry (kcherry2@memphis.edu). Questions about grading? Please contact him first!

Create a GUI application that allows you to visualize different sorting algorithms as they run. Your application should show the array being sorted as a series of bars on the screen. These bars should dynamically move as each sorting algorithm makes changes to the array. Use **SwingWorker** threads to implement the sorting algorithms (see the example code on GUI threads that we discussed on Oct. 23 for how to use the **publish** and **process** methods). The user should be able to cancel any thread before the sort completes if s/he so desires.

Your program should support all of the sorting algorithms covered in Chapter 8 of your textbook: bubble sort, selection sort, insertion sort, Shell sort, merge sort, heapsort, and quicksort.

Below is an example of what the GUI might look like. Yours does <u>not</u> need to match this exactly – have some fun with customizing it!
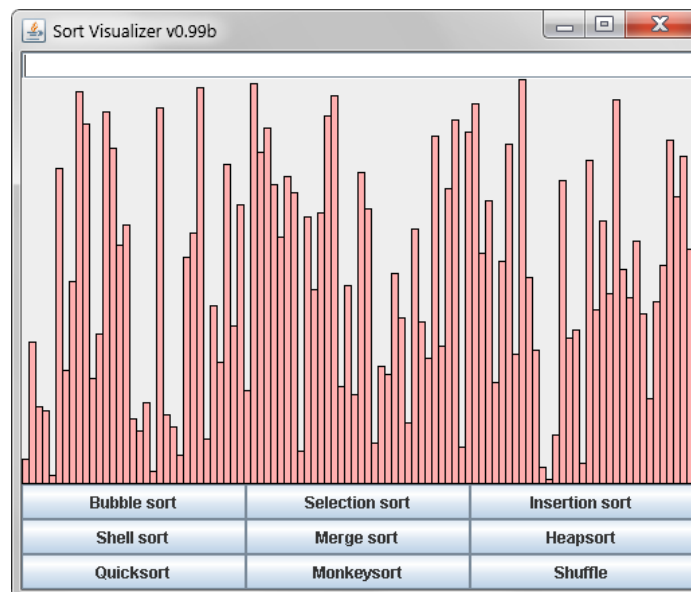
Need Help?

This assignment should be an <u>individual</u> effort. If you find yourself stuck, please feel free to contact me (Top) anytime. The Computer Science Learning Center in Dunn Hall 208 is also open, where you can get help from graduate students. Hours are posted at www.cs.memphis.edu/cslc.