Queens College
Computer Science Department

CS 212 – Spring 2020 – Project 1

Assigned: 27 February 2020
Due: 10 March 2020
Cutoff: 13 March 2020

Sorting an Array of Clocks/ Displaying in a GUI/Creating a Class

Create a class called *Clock* to represent a Clock. It should have three private instance variables: An int for the hours, an int for the minutes, and an int for the seconds. The class should include a three-argument constructor and get and set methods for each instance variable. Override the method *toString* which should return the Clock information in the same format as the input file (See below).

Read the information about a Clock from a file that will be given to you on Blackboard, parse out the three pieces of information for the Clock using a StringTokenizer, instantiate the Clock and store the Clock object in two different arrays (one of these arrays will be sorted in a later step). Once the file has been read and the arrays have been filled, sort one of the arrays by hours using Selection Sort.

Display the contents of the arrays in a GUI that has a GridLayout with one row and two columns. The left column should display the Clocks in the order read from the file, and the right column should display the Clocks in sorted order.

The input file

Each line of the input file will contain information about a Clock, with each piece of information separated by a colon. An example of the input file would be:

```
12:31:19
17:23:19
```

If the line of the file does not have exactly three tokens, do not put it in the arrays; print it to the console.

Submitting the Project.

You should have three files to submit for this project:

```
Project1.java
ClockGUI.java
Clock.java
```

Upload your project to Blackboard by the due date for full credit. Proper Javadoc is expected for the Clock class.