

<b>CS 212 – Fall 2023 – Project 1</b>
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Assigned: 27 September 2023  
Due: 13 October 2023  
Cutoff: 18 October 2023

### **Sorting an Array of Dates/ Displaying in a GUI/Creating a Class**

Given an input file of dates represented as Strings, read the dates from the file and display them in a GUI. The dates will be in the form *yyyymmdd* (such as 20231001 for October 1, 2023). The GUI should have a *GridLayout* with one row and two columns. The left column should display the dates in the order read from the file, and the right column should display the dates in sorted order (using Selection Sort).

Create a class called *Date212* to represent a date. It will store the year, month and day as integers (not as a *String*), so you will need three private instance variables. A constructor should be provided that takes a *String* (representing the date as above). Use the *substring* method of class *String* to pull out the month, day and year, and parse them as integers. Include a private validity checking method that should make sure that the month and day values are legal. If it is not a valid date, print it to the console and do not put it in the array of dates. Create a *toString* method in class *Date212* that will return the date in the form *mm/dd/yyyy*. Use this method to display the dates in the GUI.

Use two arrays containing *Date212* objects, one containing valid dates in the order read from the file, the other read in and then sorted using Selection Sort. Your class *Date212* will need a *compareTo* method.

#### **The input file**

Each line of the input file may contain several dates separated by commas. You will need to use a *StringTokenizer* to separate out the individual dates. So, an example of the input file would be:

```
20141001
20080912,20131120,19980927
20020202
20120104
```

#### **Submitting the Project.**

You should have three files to submit for this project:

```
Project1.java
DateGUI.java
Date212.java
```

Upload your project files to Blackboard by the due date for full credit.