Program 7: Swing (60 Points)

**Objectives:**

Create a GUI application using Swing.

**Program Background:**

Computer applications can be used in some way for all fields of study. They make many mundane, repetitive tasks easier and faster.

**Program Description:**

Design and create a GUI application that pertains to your field. It could retrieve user input and perform calculations or process data from a file. It is up to you, however it must meet some requirements.

The application must *effectively* utilize the following swing components at minimum:

* JLabel
* JTextField
* JButton
* JComboBox
* JCheckBox or JRadioButton

It can of course use more.

The application must also utilize Event Handling on at least 3 of the components.

You will also be graded on the aesthetics of the application, use JPanels to better organize components. Applications which simply throw the components into a frame with no thought of aesthetics and usability will lose points.

Your application must also utilize at least one of the data structures discussed in class, being ArrayList, LinkedList, Stack, or Queue.

The previous assignments gave you the classes and methods to be created, for this assignment it is left to you. Use the previous assignments of examples of design.

**Assignment Questions**

Provide the answers to these questions in your submission directory within a file called Assignment8Questions.

1. Explain you application, what it does, how to use it, and how it applies to your field.

2. Which data structure(s) did you use, and why was that structure chosen? What other concepts from this course did you use?

3. For each class you created, explain what it does and how it relates to other classes. Discuss your class design decisions.

4. Provide six test cases and their expected results.