This zip file is provided to give examples of GUI building. There are two main ways shown here: using Swing and using JavaFX. Notice that the DataManager is separated from the GUI – both the Swing and the JavaFX GUIs use the same DataManager class. This shows how the Data Manager should not have any interaction directly with the user interface. Instead the GUI (or command-line in other applications) issues user prompts, takes user responses, sends them to the manager, receives responses from the manager, and reports results to the user.

There are also several other example programs:

Three versions of HelloWorld are provided.

First, like in Swing, you can create a named class to handle events like mouse clicks and text entry.

Second, which can also be done in Swing, if your event is not going to modify any fields defined elsewhere in the program, (i.e., all fields modified by the event are “effectively final” fields), you can create an anonymous class (i.e., unnamed class).

Third, a new feature in Java 8 is lambda expressions, which are demonstrated in the third example of HelloWorld. In a lambda expression, the compiler infers the Event type and there is no need to create a specific class.

Also, a login example is provided, which shows how JavaFX can be used to get username and a hidden password, and do something with it.

Use these examples, along with information in the textbook and lecture notes to guide your GUI programming.