

## **2217 Java Software Dev 2**

### **Project 11 – Shapes, Phase 4**

#### **Purpose**

Perform file input/output with a collection of objects.

#### **Goal**

Modify the shapes drawing program so that we can save and restore a drawing.

#### **Project Overview**

The Shapes program creates simple drawings with a minimal user interface. Phase 4 of the Shapes program will save and restore drawings using binary files.

#### **Program Requirements**

First, we need to add save and restore options to the keyboard command menu.

**(E)rase (T)rails (N)e (L)ine (B)o (O)val (C)olor (S)ave (R)estore**

*AI Tip:* Research the `JFileChooser` class from the Java Swing library. There are plenty of online resources that do a great job of demonstrating how to use the `JFileChooser` dialog boxes for selecting a file for input or output.

When the user presses ‘s’, the program should display a `JFileChooser` dialog box using the `showSaveDialog` method. Check the result to make sure that a file name was selected. Use an `ObjectOutputStream` to output the list of shapes. This should be accomplished without writing a loop that iterates through the list of shapes.

When the user presses ‘r’, the program should display a `JFileChooser` dialog box using the `showOpenDialog` method. Check the result to make sure that a file name was selected. Use an `ObjectInputStream` to input the list of shapes. This should be accomplished without writing a loop that iterates through the file. Repaint the form so that the drawing read from the file is displayed.

#### **Expectations**

The program is expected to compile successfully, include identification comments at the top, and produce output that exemplifies good grammar and spelling. Failure to meet these standards may result in point deductions.