

Assignment 5 – BCS 345 Java Programming

Due: 12/6/2021 @ 10:50am

Submission Guidelines

Create a winzip file containing the WHOLE project directory and submit on Blackboard.

IMPORTANT – Make sure you ***properly comment*** AND ***properly indent*** your program. The commenting and indenting documents are on Blackboard. ***If you fail to properly comment or properly indent points will be deducted.***

VERY IMPORTANT – IF THE PROGRAM DOES NOT COMPILE THERE WILL BE MAJOR POINTS TAKEN OFF. THIS MEANS IT WILL BE A FAILING GRADE.

Overview

You will create a JavaFX GUI application to display class grade data. You should use FXML to define the GUI.

Project Setup

Create a new FXML JavaFX Maven Archetype project (not Java Application).

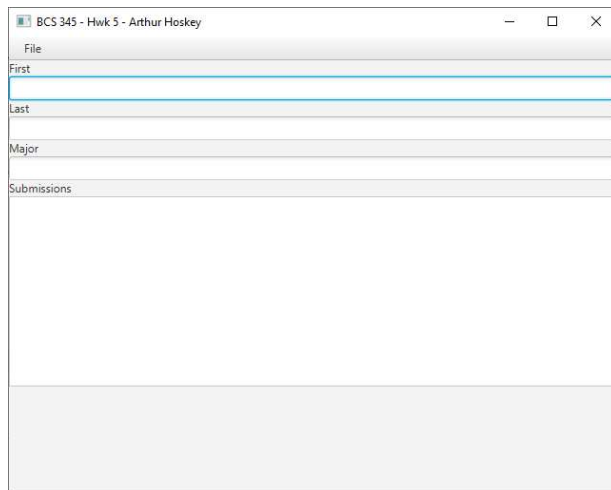
- Copy over the necessary .java files from the previous assignment's project.
- **VERY IMPORTANT!!!** Make the following changes to the module-info.java file (in default package) so it can use the GSON library (make sure to add the GSON dependency in Maven too):
 - requires com.google.gson; // Add near top
 - Change the following line:
opens <your project> to javafx.fxml; // Original
opens <your project> to javafx.fxml, com.google.gson; // New

PrimaryController Class

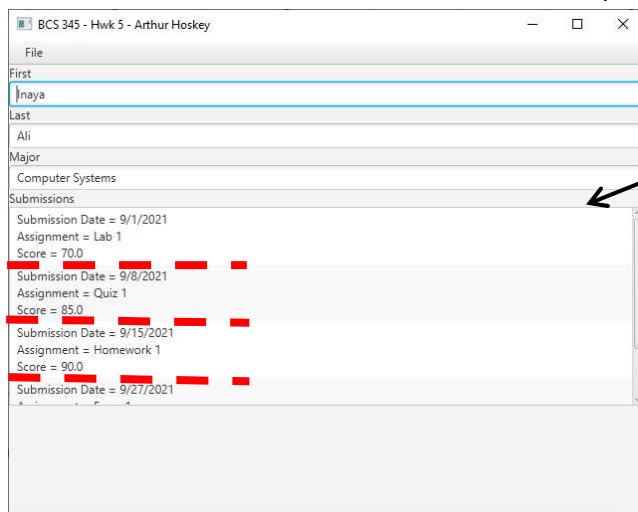
GUI event handlers should be defined in this class. This class should have an instance of ClassGrades as a member variable.

Main Display

This is what the screen should look like when you start it:



This is what the screen should look like after opening a file (File|Open):

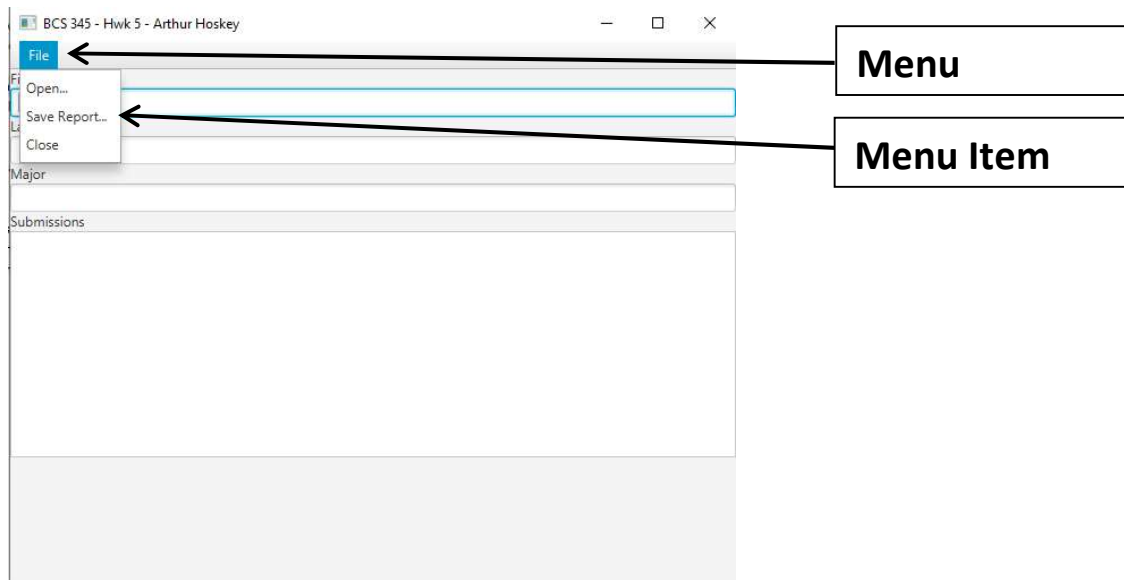


ListView control

Multiple items are showing in the ListView (not one large string). The red dashed lines will NOT appear in the ListView. The red dashed lines are there to accentuate the fact that they are different items in the ListView.

Here is a screenshot of the menu:

Written by Arthur Hoskey, PhD



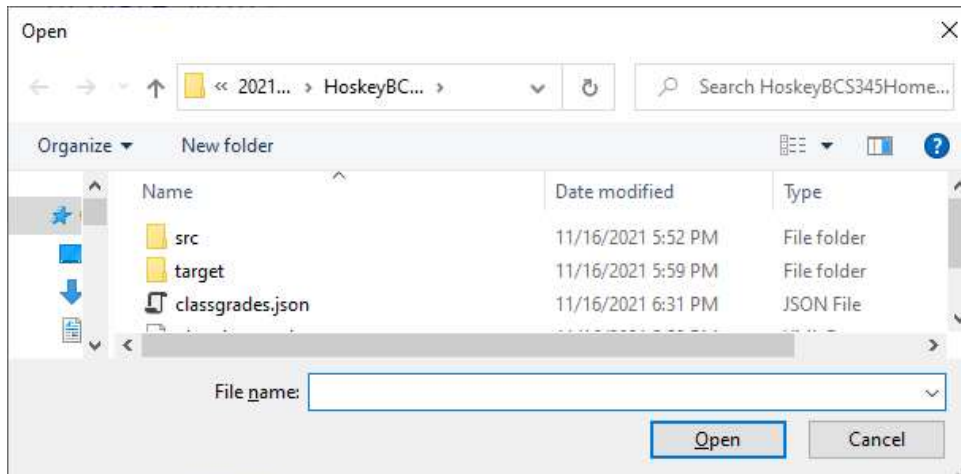
Menu Event Handling

Open Menu Item

When the user selects the Open menu item the program should display a FileChooser and let the user decide which file to read data from. It should read a ClassGrades JSON file as input.

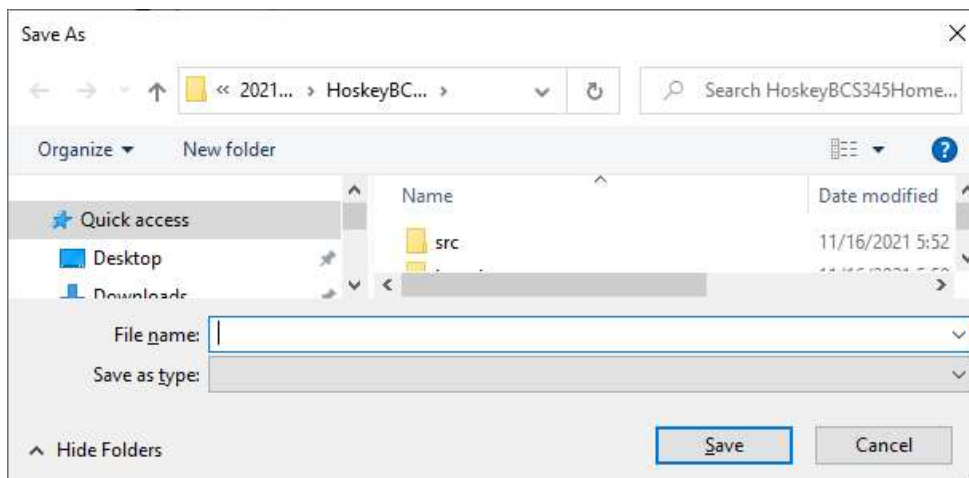
The data from the selected file should be read into the ClassGrades instance and then be displayed in the appropriate controls. You should clear the ListView items before adding the data that was just read from the file.

As detailed above, the ClassGrades instance is declared in the controller class. The user should be able to cancel out of the open dialog and have it not change the state of the program. To be clear, if the user cancels out of the open file dialog, then the data that was being displayed and contained in the ClassGrades instance should not change. Here is a picture of the open file dialog:



Save Report Menu Item

When the User selects the Save Report menu item the program should display a FileChooser and let the user decide which file to write the report to. The FileChooser should show a Save dialog and not an Open dialog in this case (hint, you need to call a different method on the FileChooser when displaying it to show a save dialog). The program should then write the report to the selected file. Just to be clear, this menu item writes a full report not just data. The format of the report is the exact same as for a previous assignment (check previous assignment for the report format). The user should be able to cancel out of the save report dialog and have it not write the report. Here is a picture of the Save dialog:



Close Menu Item

When the user chooses the Close menu item it should close the window.