

<b>Course:</b>	CSCI 2020U: Software Systems Development and Integration
<b>Lab:</b>	#8
<b>Topic:</b>	Loading and saving files

## Overview

In this lab, you'll adapt a previous lab (lab 05: with a table user interface that shows student marks), adding the ability to load and save the records from the table. It is recommended, but not required, that you use IntelliJ for this lab.

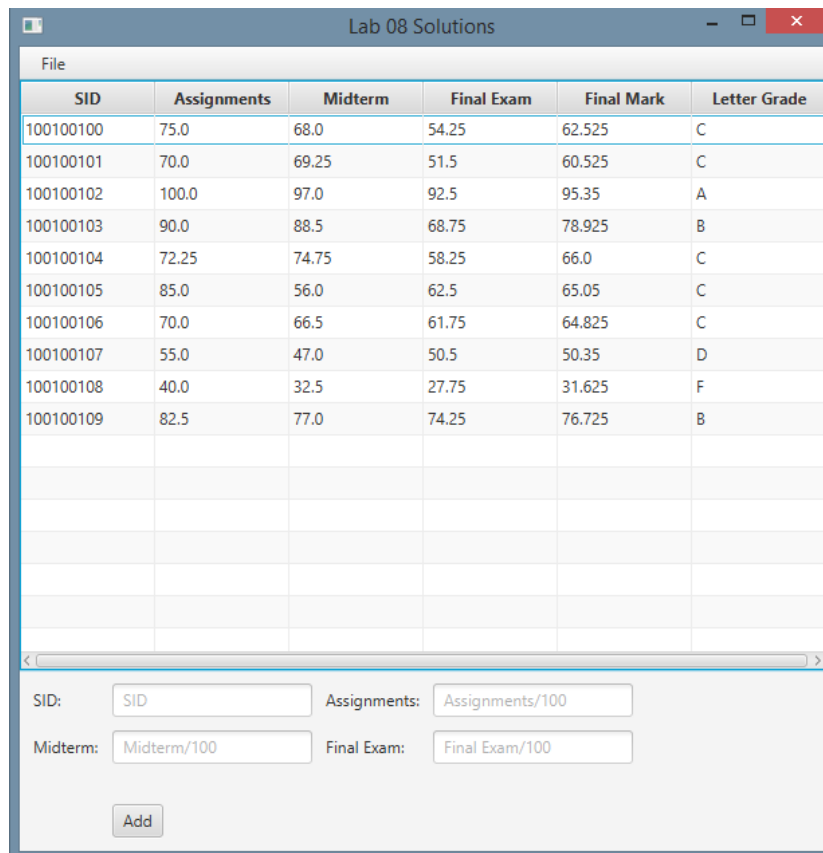
## Instructions

You can use any operating system or environment for this laboratory assignment.

You will create a new directory (or IntelliJ IDEA project) called `lab08`. Lab 05 should be your starting point, will focus on the file operations only. Add the following capabilities to the lab:

1. Ensure that the following menu items are added to the 'File' menu:
  - New
  - Open
  - Save
  - Save As
  - Exit
2. Create an instance variable called `currentFilename`, which stores the currently viewed file's filename
3. Write a function `save()` that will pull all data from the `TableView`'s data structure, and save it to the current filename as a CSV file. This function will save only the following fields:
  - SID
  - Assignments
  - Midterm
  - Final Exam
4. Write a function `load()` that will load the CSV data (as above) from the current filename, and populate the `TableView`
5. When the 'New' menu item is clicked, you will clear all items from the `TableView`
6. When the 'Open' menu item is clicked, you will show a file chooser, which will do the following when used:
  - Update the `currentFilename` variable to the user-selected file's filename
  - Call `load()`
7. When the 'Save As' menu item is clicked, you will show a file chooser (<https://docs.oracle.com/javase/8/javafx/api/javafx/stage/FileChooser.html>), which will do the following when used:
  - Update the `currentFilename` variable to the user-selected file's filename
  - Call `save()`
8. When the 'Save' menu item is clicked, you will call `save()`

9. When the 'Exit' menu item is clicked, you will exit the application



The screenshot shows a window titled "Lab 08 Solutions" with a menu bar containing "File". Below the menu bar is a table with the following data:

SID	Assignments	Midterm	Final Exam	Final Mark	Letter Grade
100100100	75.0	68.0	54.25	62.525	C
100100101	70.0	69.25	51.5	60.525	C
100100102	100.0	97.0	92.5	95.35	A
100100103	90.0	88.5	68.75	78.925	B
100100104	72.25	74.75	58.25	66.0	C
100100105	85.0	56.0	62.5	65.05	C
100100106	70.0	66.5	61.75	64.825	C
100100107	55.0	47.0	50.5	50.35	D
100100108	40.0	32.5	27.75	31.625	F
100100109	82.5	77.0	74.25	76.725	B

Below the table is a scroll bar and a form with the following fields:

SID:  Assignments:   
Midterm:  Final Exam:

**Figure 1: The application's sample output**

### How to Submit

Show your running application to the TA to prove that you have finished this lab. The TA can provide oral feedback if you do not receive full marks for any lab assignment, but it is most appropriate to ask the TA for this feedback in a timely fashion (i.e. ask now, not at the end of the term).