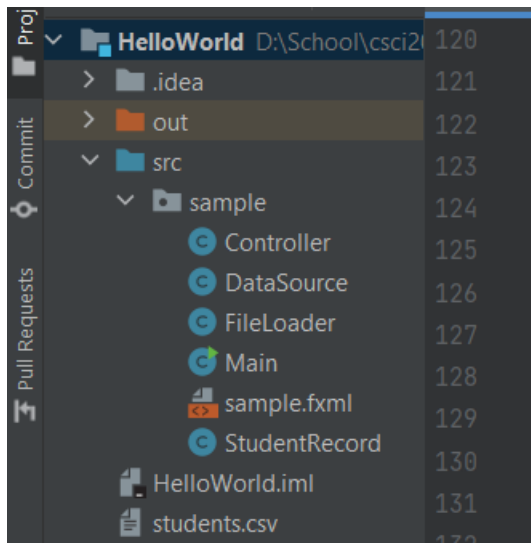


Lab08

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Local Repository



Github Repository



https://github.com/shayne-lewis/csci2020u_shaynelewis/tree/master/lab08

Sample.fxml

```
14 <GridPane alignment="center" hgap="10" vgap="10" xmlns:fx="http://javafx.com/fxml" fx:controller="sample.Controller">
15     <MenuBar fx:id="menuBar" GridPane.columnIndex="0" GridPane.rowIndex="0">
16         <menus>
17             <Menu fx:id="file" text="File">
18                 <items>
19                     <MenuItem fx:id="newFile" text="New" onAction="#newFileClicked"/>
20                     <MenuItem fx:id="open" text="Open" onAction="#openClicked"/>
21                     <MenuItem fx:id="save" text="Save" onAction="#saveClicked"/>
22                     <MenuItem fx:id="saveAs" text="Save As" onAction="#saveAsClicked"/>
23                     <SeparatorMenuItem />
24                     <MenuItem fx:id="exit" text="Exit" onAction="#exitClicked"/>
25                 </items>
26             </Menu>
27         </menus>
28     </MenuBar>
29     <TableView fx:id="tableView" GridPane.columnIndex="0" GridPane.rowIndex="1">
30         <columns>
31             <TableColumn fx:id="studentID" text="SID"></TableColumn>
32             <TableColumn fx:id="assignments" text="Assignments"></TableColumn>
33             <TableColumn fx:id="midterm" text="Midterm"></TableColumn>
34             <TableColumn fx:id="finalExam" text="Final Exam"></TableColumn>
35             <TableColumn fx:id="finalMark" text="Final Mark"></TableColumn>
36             <TableColumn fx:id="letterGrade" text="Letter Grade"></TableColumn>
37         </columns>
38     </TableView>
39
40
41 </GridPane>
```

FileLoader.java

```
8 public class FileLoader {
9     private String filename;
10     private ObservableList<StudentRecord> data = FXCollections.observableArrayList();
11
12
13     public FileLoader(String filename){
14         this.filename = filename;
15     }
16     public void loadFile(){
17         String line = "";
18
19         try{
20             BufferedReader br = new BufferedReader(new FileReader(this.filename));
21             while ((line = br.readLine())!=null){
22                 String[] columns = line.split( regex: "," );
23                 StudentRecord tempStudent = new StudentRecord(columns[0],
24                     Float.parseFloat(columns[1]), Float.parseFloat(columns[2]), Float.parseFloat(columns[3]));
25                 data.add(tempStudent);
26             }
27         } catch (FileNotFoundException e){
28             e.printStackTrace();
29         } catch (IOException e){
30             e.printStackTrace();
31         }
32     }
33     public ObservableList<StudentRecord> getData() { return data; }
34
35
36 }
```

Controller.java

```
22 public class Controller {
23     @FXML
24     private TableView tableView;
25     @FXML
26     private TableColumn studentID;
27     @FXML
28     private TableColumn midterm;
29     @FXML
30     private TableColumn assignments;
31     @FXML
32     private TableColumn finalExam;
33     @FXML
34     private TableColumn finalMark;
35     @FXML
36     private TableColumn letterGrade;
37     @FXML
38     private MenuBar menuBar;
39     @FXML
40     private Menu fileHeader;
41     @FXML
42     private MenuItem newFile;
43     @FXML
44     private MenuItem open;
45     @FXML
46     private MenuItem save;
47     @FXML
48     private MenuItem saveAs;
49     @FXML
50     private MenuItem exit;
51
52     public String currentFilename = "";
53 }
```

```
54 @FXML
55 public void initialize(){
56     studentID.setCellValueFactory(new PropertyValueFactory<>( s: "studentID"));
57     midterm.setCellValueFactory(new PropertyValueFactory<>( s: "midterm"));
58     assignments.setCellValueFactory(new PropertyValueFactory<>( s: "assignments"));
59     finalExam.setCellValueFactory(new PropertyValueFactory<>( s: "finalExam"));
60     letterGrade.setCellValueFactory(new PropertyValueFactory<>( s: "LetterGrade"));
61     finalMark.setCellValueFactory(new PropertyValueFactory<>( s: "finalMark"));
62
63     tableView.setItems(DataSource.getAllMarks());
64 }
65
66 @FXML
67 public void newFileClicked(Event e) { tableView.getItems().clear(); }
70
71 @FXML
72 public void exitClicked(Event e) { System.exit( status: 0); }
75
76 @FXML
77 public void openClicked(Event e){
78     FileChooser fileChoose = new FileChooser();
79     fileChoose.setInitialDirectory(new File( pathname: "."));
80     Stage dialog = new Stage();
81     File file = fileChoose.showOpenDialog(dialog);
82     FileLoader fl = new FileLoader(file.getAbsolutePath());
83     fl.loadFile();
84     tableView.setItems(fl.getData());
85     currentFilename = file.getName();
86     //System.out.println(currentFilename);
87 }
```

```

89      @FXML
90      public void saveClicked(Event e){
91          StudentRecord record;
92          List<List<String>> arrList = new ArrayList<>();
93          for (int i = 0; i < tableView.getItems().size(); i++){
94              record = (StudentRecord) tableView.getItems().get(i);
95              arrList.add(new ArrayList<>());
96              arrList.get(i).add(record.getStudentID());
97              arrList.get(i).add(String.valueOf(record.getAssignments()));
98              arrList.get(i).add(String.valueOf(record.getMidterm()));
99              arrList.get(i).add(String.valueOf(record.getFinalExam()));
100          }
101          StringBuilder sb = new StringBuilder();
102          for (int i = 0; i < arrList.size(); i++){
103              for (int j = 0; j < arrList.get(i).size(); j++){
104                  //System.out.println(arrList.get(i).get(j));
105                  sb.append(arrList.get(i).get(j));
106                  sb.append(',');
107              }
108              sb.append('\n');
109          }
110          try (PrintWriter pw = new PrintWriter(new File(currentFilename))){
111              pw.append(sb.toString());
112          }
113          catch (FileNotFoundException err){
114              err.printStackTrace();
115          }
116      }

```

```

119      public void saveAsClicked(Event e){
120          StudentRecord record;
121          List<List<String>> arrList = new ArrayList<>();
122          for (int i = 0; i < tableView.getItems().size(); i++){
123              record = (StudentRecord) tableView.getItems().get(i);
124              arrList.add(new ArrayList<>());
125              arrList.get(i).add(record.getStudentID());
126              arrList.get(i).add(String.valueOf(record.getAssignments()));
127              arrList.get(i).add(String.valueOf(record.getMidterm()));
128              arrList.get(i).add(String.valueOf(record.getFinalExam()));
129          }
130          StringBuilder sb = new StringBuilder();
131          for (int i = 0; i < arrList.size(); i++){
132              for (int j = 0; j < arrList.get(i).size(); j++){
133                  //System.out.println(arrList.get(i).get(j));
134                  sb.append(arrList.get(i).get(j));
135                  sb.append(',');
136              }
137              sb.append('\n');
138          }
139          // can name file anything
140          try (PrintWriter pw = new PrintWriter(new File( pathname: "savedAsFile.csv"))){
141              pw.append(sb.toString());
142          }
143          catch (FileNotFoundException err){
144              err.printStackTrace();
145          }
146          FileChooser fileChoose = new FileChooser();
147          fileChoose.setInitialDirectory(new File( pathname: "."));
148          Stage dialog = new Stage();
149          File file = fileChoose.showOpenDialog(dialog);
150          fileChoose.setInitialFileName(currentFilename);
151      }

```

Output Window

Lab05

File						
New	Assignments	Midterm	Final Exam	Final Mark	Letter Grade	
Open	75.0	68.0	54.25	62.525	C	
Save	70.0	69.25	51.5	60.525	C	
Save As	100.0	97.0	92.5	95.35	A	
Exit	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	