

```
1 package sample;
2
3 import javafx.application.Application;
4 import javafx.fxml.FXMLLoader;
5 import javafx.scene.Parent;
6 import javafx.scene.Scene;
7 import javafx.stage.Stage;
8
9 public class Main extends Application {
10
11     @Override
12     public void start(Stage primaryStage) throws Exception{
13         Parent root = FXMLLoader.load(getClass().getResource("sample.fxml"));
14         primaryStage.setTitle("Lab 05 Solutions");
15         primaryStage.setScene(new Scene(root, width: 525, height: 525));
16         primaryStage.show();
17     }
18
19
20     public static void main(String[] args) { launch(args); }
21 }
22
23
24
```

```
1 package sample;
2
3 import javafx.fxml.FXML;
4 import javafx.scene.control.TableColumn;
5 import javafx.scene.control.TableView;
6 import javafx.scene.control.cell.PropertyValueFactory;
7
8 public class Controller {
9     @FXML
10     private TableView tableView;
11     @FXML
12     private TableColumn SIDColumn;
13     @FXML
14     private TableColumn assignmentsColumn;
15     @FXML
16     private TableColumn midtermColumn;
17     @FXML
18     private TableColumn finalExamColumn;
19     @FXML
20     private TableColumn finalMarkColumn;
21     @FXML
22     private TableColumn letterGradeColumn;
23
24     private TableView<StudentRecord> student;
25
```

```

26     @FXML
27     public void initialize() {
28         SIDColumn.setCellValueFactory(new PropertyValueFactory<>("SID"));
29         assignmentsColumn.setCellValueFactory(new PropertyValueFactory<>("assignments"));
30         midtermColumn.setCellValueFactory(new PropertyValueFactory<>("Midterm"));
31         finalExamColumn.setCellValueFactory(new PropertyValueFactory<>("FinalExam"));
32         finalMarkColumn.setCellValueFactory(new PropertyValueFactory<>("FinalMark"));
33         letterGradeColumn.setCellValueFactory(new PropertyValueFactory<>("LetterGrade"));
34         tableView.setItems(dataSource.getAllMarks());
35     }
36 }
37
38
39
40 }
41

```

```

Main.java x Controller.java x StudentRecord.java x DataSource.java x sample.fxml x
1 package sample;
2
3 public class StudentRecord {
4     private String SID;
5     private Float assignments;
6     private Float Midterm;
7     private Float FinalExam;
8     private Float FinalMark;
9     private String LetterGrade;
10
11     public StudentRecord(String SID, Float Midterm, Float assignments, Float FinalExam, Float FinalMark, String LetterGrade) {
12         this.SID = SID;
13         this.assignments = assignments;
14         this.Midterm = Midterm;
15         this.FinalExam = FinalExam;
16         this.FinalMark = FinalMark;
17         this.LetterGrade = LetterGrade;
18     }
19
20     public String getSID() { return this.SID; }
21     public Float getAssignments() { return this.assignments; }
22     public Float getMidterm() { return this.Midterm; }
23     public Float getFinalExam() { return this.FinalExam; }
24     public Float getFinalMark() { return this.FinalMark; }
25     public String getLetterGrade() { return this.LetterGrade; }
26 }

```

```

Main.java x Controller.java x StudentRecord.java x DataSource.java x sample.fxml x
1 package sample;
2
3 import javafx.collections.FXCollections;
4 import javafx.collections.ObservableList;
5
6 public class DataSource {
7     @FXML
8     public static ObservableList<StudentRecord> getAllMarks(){
9         // Student ID, Assignments, Midterm, Final exam
10         ObservableList<StudentRecord> marks = FXCollections.observableArrayList();
11         marks.add(new StudentRecord( SID: "100100100", Midterm: 75.0f, assignments: 68.0f, FinalExam: 54.25f, FinalMark: 75.0f*0.3f+68.0f*0.2f+54.25f*0.5f, LetterGrade: "C"));
12         marks.add(new StudentRecord( SID: "100100101", Midterm: 70.0f, assignments: 69.25f, FinalExam: 51.5f, FinalMark: 70.0f*0.3f+69.25f*0.2f+51.5f*0.5f, LetterGrade: "C"));
13         marks.add(new StudentRecord( SID: "100100102", Midterm: 100.0f, assignments: 97.0f, FinalExam: 92.5f, FinalMark: 100.0f*0.3f+97.0f*0.2f+92.5f*0.5f, LetterGrade: "A"));
14         marks.add(new StudentRecord( SID: "100100103", Midterm: 90.0f, assignments: 88.5f, FinalExam: 68.75f, FinalMark: 90.0f*0.3f+88.5f*0.2f+68.75f*0.5f, LetterGrade: "B"));
15         marks.add(new StudentRecord( SID: "100100104", Midterm: 72.25f, assignments: 74.75f, FinalExam: 58.25f, FinalMark: 72.25f*0.3f+74.75f*0.2f+58.25f*0.5f, LetterGrade: "C"));
16         marks.add(new StudentRecord( SID: "100100105", Midterm: 85.0f, assignments: 56.0f, FinalExam: 62.5f, FinalMark: 85.0f*0.3f+56.0f*0.2f+62.5f*0.5f, LetterGrade: "C"));
17         marks.add(new StudentRecord( SID: "100100106", Midterm: 70.0f, assignments: 66.5f, FinalExam: 61.75f, FinalMark: 70.0f*0.3f+66.5f*0.2f+61.75f*0.5f, LetterGrade: "C"));
18         marks.add(new StudentRecord( SID: "100100107", Midterm: 55.0f, assignments: 47.0f, FinalExam: 50.5f, FinalMark: 55.0f*0.3f+47.0f*0.2f+50.5f*0.5f, LetterGrade: "D"));
19         marks.add(new StudentRecord( SID: "100100108", Midterm: 32.5f, assignments: 40.0f, FinalExam: 27.75f, FinalMark: 32.5f*0.3f+40.0f*0.2f+27.75f*0.5f, LetterGrade: "F"));
20         marks.add(new StudentRecord( SID: "100100109", Midterm: 82.5f, assignments: 77.0f, FinalExam: 74.25f, FinalMark: 82.5f*0.3f+77.0f*0.2f+74.25f*0.5f, LetterGrade: "B"));
21
22         return marks;
23     }
24 }

```

```
Main.java x Controller.java x StudentRecord.java x DataSource.java x sample.fxml x
1  <?import javafx.geometry.Insets?>
2  <?import javafx.scene.layout.GridPane?>
3
4  <?import javafx.scene.control.Button?>
5  <?import javafx.scene.control.Label?>
6  <?import javafx.scene.control.TableView?>
7  <?import javafx.scene.control.TableColumn?>
8  <GridPane fx:controller="sample.Controller"
9  |   xmlns:fx="http://javafx.com/fxml" alignment="center" hgap="10" vgap="10">
10
11  <TableView fx:id = "tableView" GridPane.columnIndex="0" GridPane.rowIndex="0" >
12  |   <columns >
13  |       <TableColumn fx:id="SIDColumn" text = "SID"></TableColumn>
14  |       <TableColumn fx:id="assignmentsColumn" text = "Assignments"></TableColumn>
15  |       <TableColumn fx:id="midtermColumn" text = "Midterm"></TableColumn>
16  |       <TableColumn fx:id="finalExamColumn" text = "Final Exam"></TableColumn>
17  |       <TableColumn fx:id="finalMarkColumn" text = "Final Mark"></TableColumn>
18  |       <TableColumn fx:id="letterGradeColumn" text = "Letter Grade"></TableColumn>
19  |   </columns>
20  | </TableView>
21
22 </GridPane>
```

Lab 05 Solutions					
SID	Assignments	Midterm	Final Exam	Final Mark	Letter Grade
100100100	68.0	75.0	54.25	63.225	C
100100101	69.25	70.0	51.5	60.6	C
100100102	97.0	100.0	92.5	95.65	A
100100103	88.5	90.0	68.75	79.075005	B
100100104	74.75	72.25	58.25	65.75	C
100100105	56.0	85.0	62.5	67.95	C
100100106	66.5	70.0	61.75	65.175	C
100100107	47.0	55.0	50.5	51.15	D
100100108	40.0	32.5	27.75	31.625	F
100100109	77.0	82.5	74.25	77.275	B