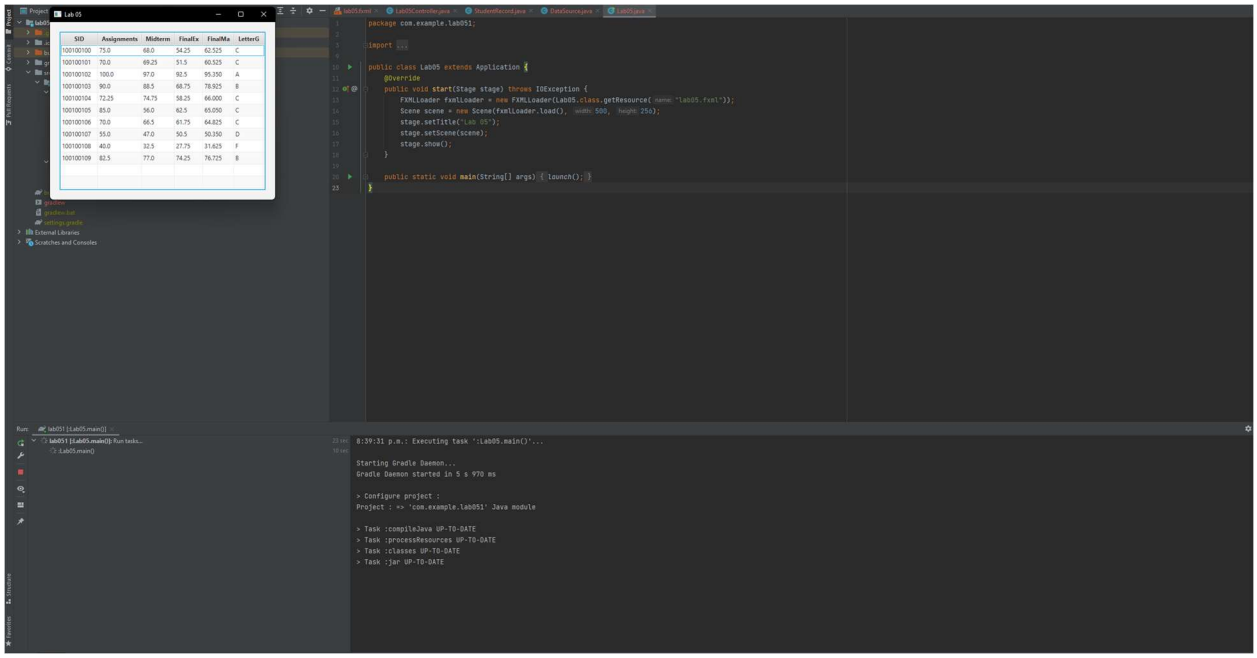
Kishore Muralitharan – 100698222 – Lab 74531



Lab05.java

```java
package com.example.lab051;

import javafx.application.Application;
import javafx.fxml.FXMLLoader;
import javafx.scene.Scene;
import javafx.stage.Stage;

import java.io.IOException;

public class Lab05 extends Application {
    @Override
    public void start(Stage stage) throws IOException {
        FXMLLoader fxmlLoader = new
FXMLLoader(Lab05.class.getResource("lab05.fxml"));
        Scene scene = new Scene(fxmlLoader.load(), 500, 256);
        stage.setTitle("Lab 05");
        stage.setScene(scene);
        stage.show();
    }

    public static void main(String[] args) {
        launch();
    }
}
```

DataSource.java

```
package com.example.lab051;

import javafx.collections.FXCollections;
import javafx.collections.ObservableList;

public class DataSource {
    public static ObservableList<StudentRecord> getAllMarks() {
        ObservableList<StudentRecord> marks =
FXCollections.observableArrayList();

        // Student ID, Assignments, Midterm, Final exam
        marks.add(new StudentRecord("100100100", 75.0f, 68.0f, 54.25f));
        marks.add(new StudentRecord("100100101", 70.0f, 69.25f, 51.5f));
        marks.add(new StudentRecord("100100102", 100.0f, 97.0f, 92.5f));
        marks.add(new StudentRecord("100100103", 90.0f, 88.5f, 68.75f));
        marks.add(new StudentRecord("100100104", 72.25f, 74.75f, 58.25f));
        marks.add(new StudentRecord("100100105", 85.0f, 56.0f, 62.5f));
        marks.add(new StudentRecord("100100106", 70.0f, 66.5f, 61.75f));
        marks.add(new StudentRecord("100100107", 55.0f, 47.0f, 50.5f));
        marks.add(new StudentRecord("100100108", 40.0f, 32.5f, 27.75f));
        marks.add(new StudentRecord("100100109", 82.5f, 77.0f, 74.25f));

        return marks;
    }
}
```

StudentRecord.java

```
package com.example.lab051;

public class StudentRecord {
    private String StudentID,FinalMark;
    private float Midterm,Assignment,FinalExam;
    private char LetterGrade;

    public StudentRecord(String studentID, float assignment, float midterm,
float finalExam) {
        StudentID = studentID;
        Midterm = midterm;
        Assignment = assignment;
        FinalExam = finalExam;

        float FMark = (Midterm * 0.3f) + (assignment * 0.2f) + (FinalExam *
0.5f);
        FinalMark = String.format("%.3f",FMark);

        if (FMark >= 80 && FMark <= 100) {
            LetterGrade = 'A';
        } else if (FMark >= 70 && FMark <= 79) {
            LetterGrade = 'B';
        } else if (FMark >= 60 && FMark <= 69) {
            LetterGrade = 'C';
        } else if (FMark >= 50 && FMark <= 59) {
            LetterGrade = 'D';
```

```
        } else {
            LetterGrade = 'F';
        }

    }

    public String getStudentID() {
        return this.StudentID;
    }

    public float getMidterm() {
        return this.Midterm;
    }

    public float getAssignment() {
        return this.Assignment;
    }

    public float getFinalExam() {
        return this.FinalExam;
    }

    public String getFinalMark() {
        return this.FinalMark;
    }

    public char getLetterGrade() {
        return this.LetterGrade;
    }

    public void setStudentID(String studentID) {
        StudentID = studentID;
    }

    public void setMidterm(float midterm) {
        Midterm = midterm;
    }

    public void setAssignment(float assignment) {
        Assignment = assignment;
    }

    public void setFinalExam(float finalExam) {
        FinalExam = finalExam;
    }

    public void setFinalMark(String finalMark) {
        FinalMark = finalMark;
    }

    public void setLetterGrade(char letterGrade) {
        LetterGrade = letterGrade;
    }
}
```

Lab05Controller.java

```
package com.example.lab051;

import javafx.collections.ObservableList;
import javafx.fxml.FXML;
import javafx.fxml.Initializable;
import javafx.scene.control.Label;
import javafx.scene.control.TableView;

public class Lab05Controller {
    @FXML
    private TableView tableBookList;

    @FXML
    public void initialize() {
        ObservableList<StudentRecord> marks = DataSource.getAllMarks();
        tableBookList.setItems(marks);
    }
}
```

Lab05.fxml

```
<?xml version="1.0" encoding="UTF-8"?>

<?import javafx.geometry.Insets?>
<?import javafx.scene.control.Label?>
<?import javafx.scene.layout.VBox?>

<?import javafx.scene.control.Button?>
<?import javafx.scene.control.TableView?>
<?import javafx.scene.control.TableColumn?>
<?import javafx.scene.control.cell.PropertyValueFactory?>
<VBox alignment="CENTER" spacing="20.0" xmlns:fx="http://javafx.com/fxml"
      fx:controller="com.example.lab051.Lab05Controller">
    <padding>
        <Insets bottom="20.0" left="20.0" right="20.0" top="20.0"/>
    </padding>

    <TableView fx:id="tableBookList">
        <columns>
            <TableColumn fx:id="columnTitle" text="SID">
                <cellValueFactory>
                    <PropertyValueFactory property="StudentID"/>
                </cellValueFactory>
            </TableColumn>
            <TableColumn fx:id="columnAss" text="Assignments">
                <cellValueFactory>
                    <PropertyValueFactory property="Assignment"/>
                </cellValueFactory>
            </TableColumn>
            <TableColumn fx:id="ColumnMid" text="Midterm">
                <cellValueFactory>
                    <PropertyValueFactory property="Midterm"/>
                </cellValueFactory>
            </TableColumn>
            <TableColumn fx:id="columnFinalEx" text="FinalEx">
                <cellValueFactory>
```

```
                    <PropertyValueFactory property="FinalExam"/>
                </cellValueFactory>
            </TableColumn>
            <TableColumn fx:id="columnFinalMa" text="FinalMa">
                <cellValueFactory>
                    <PropertyValueFactory property="FinalMark"/>
                </cellValueFactory>
            </TableColumn>
            <TableColumn fx:id="columnLetterG" text="LetterG">
                <cellValueFactory>
                    <PropertyValueFactory property="LetterGrade"/>
                </cellValueFactory>
            </TableColumn>
        </columns>
    </TableView>
</VBox>
```

Github - https://github.com/BillDoesScience/csci2020u_Gilgamesh/tree/main/lab051