

PROGRAM:

1. App.java

```
import javafx.application.Application;
import javafx.fxml.FXMLLoader;
import javafx.scene.Parent;
import javafx.scene.Scene;
import javafx.scene.control.Alert;
import javafx.stage.Stage;
import java.io.IOException;
import java.sql.*;

public class App extends Application{
    final static String url = "jdbc:mysql://localhost:3306/books";
    final static String user = "root";
    final static String pass = "0000";
    public static void main(String[] args){
        launch(args);
    }
    public void start(Stage stage){
        Parent root;
        try {
            root = FXMLLoader.load(getClass().getResource("MainMenu.fxml"));
            Scene scene = new Scene(root);
            stage.setScene(scene);
            stage.setTitle("Team 2's RetailShop");
```

```
stage.setResizable(false);
stage.show();
} catch (IOException e) {
e.printStackTrace();
}
}

public static String getBookID(){
String res ="Book ID\n\n";
try{
Connection con = DriverManager.getConnection(url, user, pass);
Statement stmt = con.createStatement();
String sql = "SELECT bookID FROM books;";
ResultSet rs = stmt.executeQuery(sql);
while(rs.next()){
res+=(String.valueOf(rs.getInt("bookID"))+"\n\n");
}
//System.out.println(res);
con.close();
}
catch(SQLException e){
e.printStackTrace();
}
return res;
}

public static String getBookNames(){
String res ="Book Name\n\n";
```

```

try{
Connection con = DriverManager.getConnection(url, user, pass);
Statement stmt = con.createStatement();
String sql = "SELECT bookname FROM books;";
ResultSet rs = stmt.executeQuery(sql);
while(rs.next()){
res+=(rs.getString("Bookname"))+"\n\n";
}
//System.out.println(res);
con.close();
}
catch(SQLException e){
e.printStackTrace();
}
return res;
}

public static String getAuthorNames(){
String res="Author Name\n\n";
try{
Connection con = DriverManager.getConnection(url, user, pass);
Statement stmt = con.createStatement();
String sql = "SELECT bookAuthor FROM books;";
ResultSet rs = stmt.executeQuery(sql);
while(rs.next()){
res+=rs.getString("BookAuthor")+"\n\n";
}
}

```

```

//System.out.println(res);
con.close();
}
catch(SQLException e){
e.printStackTrace();
}
return res;
}

public static void enterBook(String bookName, String bookAuthor){
try{
Connection con = DriverManager.getConnection(url, user, pass);
Statement stmt = con.createStatement();
String findID ="SELECT bookID FROM books ORDER BY bookID DESC";
ResultSet id = stmt.executeQuery(findID);
id.next();
int newID = id.getInt("bookID")+1;
String sql ="INSERT INTO books VALUES (" +newID+", '"+bookName+"',
'''+bookAuthor+'');";
stmt.execute(sql);
//System.out.println("\t\tInserted Successfully");
}
catch(SQLException e){
e.printStackTrace();
}
}

public static void showAlert(String Header, String message){
Alert alert = new Alert(Alert.AlertType.INFORMATION);

```

```

alert.setTitle("Successful");
alert.setHeaderText(Header);
alert.setContentText(message);
alert.showAndWait();
}

public static void deleteBook(int bookid){
String sql = "DELETE FROM books WHERE bookid = "+bookid+"";
try{
Connection con = DriverManager.getConnection(url, user, pass);
Statement stmt = con.createStatement();
stmt.execute(sql);
}
catch(SQLException e){
e.printStackTrace();
}
}
}
}

```

2. BookDetails.fxml

```

<?xml version="1.0" encoding="UTF-8"?>
<?import javafx.scene.control.Button?>
<?import javafx.scene.control.Label?>
<?import javafx.scene.control.ScrollPane?>
<?import javafx.scene.effect.DropShadow?>
<?import javafx.scene.image.Image?>

```

```
<?import javafx.scene.image.ImageView?>
<?import javafx.scene.layout.AnchorPane?>
<?import javafx.scene.layout.HBox?>
<?import javafx.scene.layout.VBox?>
<?import javafx.scene.text.Font?>
<?import javafx.scene.text.Text?>

<AnchorPane maxHeight="-Infinity" maxWidth="-Infinity" minHeight="-Infinity" minWidth="-Infinity" prefHeight="400.0" prefWidth="600.0"
xmlns="http://javafx.com/javafx/21" xmlns:fx="http://javafx.com/fxml/1"
fx:controller="BookDetailsController">

<children>

<ImageView fitHeight="400.0" fitWidth="600.0" pickOnBounds="true">

<image>

<Image url="@../img/Menu.jpg" />

</image>

</ImageView>

<Text fill="WHITE" layoutX="189.0" layoutY="45.0" stroke="BLACK"
strokeType="OUTSIDE" strokeWidth="2.0" text="Available Books"
textAlignment="CENTER" wrappingWidth="220.19921875">

<font>

<Font name="System Bold" size="25.0" />

</font>

</Text>

<ScrollPane layoutX="53.0" layoutY="74.0" prefHeight="241.0"
prefWidth="492.0">

<content>

<AnchorPane minHeight="0.0" minWidth="0.0" prefHeight="497.0"
prefWidth="492.0">
```

```
<children>

<HBox layoutX="3.0" layoutY="3.0" prefHeight="496.0" prefWidth="486.0"
spacing="30.0">

<children>

<VBox fx:id="BookIDVBox" alignment="TOP_CENTER" prefHeight="496.0"
prefWidth="136.0">

<children>

<Label alignment="TOP_CENTER" textAlignment="CENTER" />

</children>

</VBox>

<VBox fx:id="BookNameVBox" alignment="TOP_CENTER" prefHeight="496.0"
prefWidth="136.0">

<children>

<Label alignment="TOP_CENTER" prefHeight="17.0" prefWidth="19.0"
textAlignment="CENTER" />

</children>

</VBox>

<VBox fx:id="BookAuthorVBox" alignment="TOP_CENTER" prefHeight="496.0"
prefWidth="136.0">

<children>

<Label alignment="TOP_CENTER" prefHeight="17.0" prefWidth="19.0"
textAlignment="CENTER" />

</children>

</VBox>

</children>

</HBox>

</children>

</AnchorPane>
```

```
</content>
</ScrollPane>
<Button layoutX="27.0" layoutY="22.0" mnemonicParsing="false"
onAction="#backButtonOnClicked" style="-fx-background-color: lightskyblue;"
text="Back">
<effect>
<DropShadow />
</effect></Button>
</children>
</AnchorPane>
```

3. BookDetailsController.java

```
import javafx.event.ActionEvent;
import javafx.fxml.FXML;
import javafx.scene.layout.VBox;
import java.io.IOException;
import java.net.URL;
import java.util.ResourceBundle;
import javafx.fxml.FXMLLoader;
import javafx.fxml.Initializable;
import javafx.scene.Node;
import javafx.scene.Parent;
import javafx.scene.Scene;
import javafx.scene.text.Text;
import javafx.stage.Stage;

public class BookDetailsController implements Initializable {
```



```

@FXML
private VBox BookAuthorVBox;

@FXML
private VBox BookIDVBox;

@FXML
private VBox BookNameVBox;

private Stage stage;

@FXML
void backButtonOnClicked(ActionEvent event) {
    try{
        Parent root = FXMLLoader.load(getClass().getResource("MainMenu.fxml"));
        Scene scene = new Scene(root);
        stage = (Stage)((Node)event.getSource()).getScene().getWindow();
        stage.setScene(scene);
        stage.show();
    }
    catch(IOException e){
        e.printStackTrace();
    }
}

public void initialize(URL url, ResourceBundle resourceBundle){
    String BookID= App.getBookID();
    System.out.println(BookID);
    Text bookID = new Text(BookID);
    BookIDVBox.getChildren().add(bookID);
    String bookName = App.getBookNames();

```

```

Text Booknames = new Text(bookName);
BookNameVBox.getChildren().add(Booknames);
String Author = App.getAuthorNames();
Text Authornames = new Text(Author);
BookAuthorVBox.getChildren().add(Authornames);
}
}

```

4. BookDetailsAndDeletion.fxml

```

<?xml version="1.0" encoding="UTF-8"?>
<?import javafx.scene.control.Button?>
<?import javafx.scene.control.Label?>
<?import javafx.scene.control.ScrollPane?>
<?import javafx.scene.control.TextField?>
<?import javafx.scene.effect.DropShadow?>
<?import javafx.scene.image.Image?>
<?import javafx.scene.image.ImageView?>
<?import javafx.scene.layout.AnchorPane?>
<?import javafx.scene.layout.HBox?>
<?import javafx.scene.layout.VBox?>
<?import javafx.scene.text.Font?>
<?import javafx.scene.text.Text?>
<AnchorPane maxHeight="-Infinity" maxWidth="-Infinity" minHeight="-Infinity" minWidth="-Infinity" prefHeight="448.0" prefWidth="672.0" xmlns="http://javafx.com/javafx/21" xmlns:fx="http://javafx.com/fxml/1" fx:controller="DeletionController">

```

```
<children>

<ImageView fitHeight="456.0" fitWidth="682.0" layoutY="-5.0"
pickOnBounds="true">

<image>

<Image url="@../img/Menu.jpg" />

</image>

</ImageView>

<ScrollPane layoutX="83.0" layoutY="73.0" prefHeight="217.0"
prefWidth="530.0">

<content>

<HBox alignment="TOP_CENTER" prefHeight="609.0" prefWidth="530.0"
spacing="25.0">

<children>

<VBox fx:id="BookIDVBox" alignment="TOP_CENTER" prefHeight="609.0"
prefWidth="144.0">

<children>

<Label />

</children>

</VBox>

<VBox fx:id="BookNameVBox" alignment="TOP_CENTER" prefHeight="609.0"
prefWidth="144.0">

<children>

<Label prefHeight="17.0" prefWidth="16.0" />

</children>

</VBox>

<VBox fx:id="BookAuthorVBox" alignment="TOP_CENTER" prefHeight="609.0"
prefWidth="144.0">

<children>
```

```
<Label prefHeight="17.0" prefWidth="17.0" />
</children>
</VBox>
</children>
</HBox>
</content>
</ScrollPane>
<Text fill="WHITE" layoutX="226.0" layoutY="39.0" stroke="BLACK"
strokeType="OUTSIDE" text="Book Details" textAlignment="CENTER">
<font>
<Font name="Courier New Bold" size="32.0" />
</font>
</Text>
<Text layoutX="282.0" layoutY="325.0" strokeType="OUTSIDE"
strokeWidth="0.0" text="Deletion">
<font>
<Font name="Constantia" size="20.0" />
</font>
</Text>
<TextField fx:id="cusIDDeletion" layoutX="181.0" layoutY="343.0"
promptText="Enter Book ID">
<effect>
<DropShadow />
</effect>
</TextField>
<Button fx:id="deleteButton" layoutX="350.0" layoutY="343.0"
mnemonicParsing="false" onAction="#DeleteButtonOnClicked" style="-fx-
background-color: wheat;" text="Delete">
```

```

<effect>
<DropShadow />
</effect></Button>

<Button fx:id="backButton" layoutX="35.0" layoutY="18.0"
mnemonicParsing="false" onAction="#backButtonOnClicked" style="-fx-
background-color: lightskyblue;" text="Back">

<effect>
<DropShadow />
</effect></Button>

</children>

</AnchorPane>

```

5. DeletionController.java

```

import javafx.event.ActionEvent;
import javafx.fxml.FXML;
import javafx.fxml.FXMLLoader;
import javafx.fxml.Initializable;
import javafx.scene.Node;
import javafx.scene.Parent;
import javafx.scene.Scene;
import javafx.scene.control.Button;
import javafx.scene.control.TextField;
import javafx.scene.layout.VBox;
import javafx.scene.text.Text;
import javafx.stage.Stage;
import java.io.IOException;

```

```
import java.net.URL;

import java.util.ResourceBundle;

public class DeletionController implements Initializable {

    @FXML

    private VBox BookIDVBox;

    @FXML

    private VBox BookNameVBox;

    @FXML

    private VBox BookAuthorVBox;

    @FXML

    private Button backButton;

    @FXML

    private TextField cusIDDeletion;

    @FXML

    private Button deleteButton;

    private Stage stage;

    public void initialize(URL url, ResourceBundle res){

        String BookID= App.getBookID();

        System.out.println(BookID);

        Text bookID = new Text(BookID);

        BookIDVBox.getChildren().add(bookID);

        String bookName = App.getBookNames();

        Text Booknames = new Text(bookName);

        BookNameVBox.getChildren().add(Booknames);

        String Author = App.getAuthorNames();

        Text Authornames = new Text(Author);
```

```

BookAuthorVBox.getChildren().add(Authornames);
}

@FXML
void DeleteButtonOnClicked(ActionEvent event) {
    int cusID = Integer.parseInt(cusIDDeletion.getText());
    App.deleteBook(cusID);

    App.showAlert( "Entry Removed", "The Book with Book ID: "+cusID+" has been
    deletd from the Database.");
}

@FXML
void backButtonOnClicked(ActionEvent event) {
    try{
        Parent root = FXMLLoader.load(getClass().getResource("MainMenu.fxml"));
        Scene scene = new Scene(root);
        stage = (Stage)((Node)event.getSource()).getScene().getWindow();
        stage.setScene(scene);
        stage.show();
    }
    catch(IOException e){
        e.printStackTrace();
    }
}
}

```

6. InsertBook.fxml

```

<?xml version="1.0" encoding="UTF-8"?>
<?import javafx.scene.control.Button?>

```

```
<?import javafx.scene.control.Label?>
<?import javafx.scene.control.TextField?>
<?import javafx.scene.effect.DropShadow?>
<?import javafx.scene.image.Image?>
<?import javafx.scene.image.ImageView?>
<?import javafx.scene.layout.AnchorPane?>
<?import javafx.scene.text.Font?>
<?import javafx.scene.text.Text?>
<AnchorPane maxHeight="-Infinity" maxWidth="-Infinity" minHeight="-Infinity" minWidth="-Infinity" prefHeight="400.0" prefWidth="600.0"
xmlns="http://javafx.com/javafx/21" xmlns:fx="http://javafx.com/fxml/1"
fx:controller="InsertBookController">
<children>
<ImageView fitHeight="406.0" fitWidth="612.0" layoutX="-8.0" layoutY="-1.0"
pickOnBounds="true">
<image>
<Image url="@../img/Menu.jpg" />
</image>
</ImageView>
<Text layoutX="165.0" layoutY="64.0" stroke="WHITE" strokeType="OUTSIDE"
strokeWidth="2.0" text="Enter a New Book">
<font>
<Font name="Arial Bold" size="32.0" />
</font>
</Text>
<TextField fx:id="NewBookField" layoutX="300.0" layoutY="143.0"
prefHeight="32.0" prefWidth="209.0" promptText="Book Name">
<effect>
```



```
<DropShadow />
</effect></TextField>

<Label layoutX="117.0" layoutY="148.0" text="Enter Book Name: "
textFill="WHITE">

<font>

<Font name="Calibri" size="19.0" />

</font>

</Label>

<Label layoutX="127.0" layoutY="200.0" text="Enter Book Author: "
textFill="WHITE">

<font>

<Font name="Calibri" size="19.0" />

</font>

</Label>

<TextField fx:id="NewAuthorField" layoutX="300.0" layoutY="195.0"
prefHeight="32.0" prefWidth="209.0" promptText="Author Name">

<effect>

<DropShadow />

</effect></TextField>

<Button layoutX="242.0" layoutY="328.0" mnemonicParsing="false"
onAction="#DoneButtonOnClicked" prefHeight="32.0" prefWidth="108.0"
style="-fx-background-color: wheat;" text="Done">

<effect>

<DropShadow />

</effect></Button>

<Button layoutX="25.0" layoutY="44.0" mnemonicParsing="false"
onAction="#backButtonOnClicked" style="-fx-background-color: lightskyblue;"
text="Back">
```

```
<effect>
<DropShadow />
</effect></Button>
</children>
</AnchorPane>
```

7. InsertBookController.java

```
import java.io.IOException;
import javafx.event.ActionEvent;
import javafx.fxml.FXML;
import javafx.fxml.FXMLLoader;
import javafx.scene.Node;
import javafx.scene.Parent;
import javafx.scene.Scene;
import javafx.scene.control.TextField;
import javafx.stage.Stage;

public class InsertBookController {

    @FXML
    private TextField NewAuthorField;

    @FXML
    private TextField NewBookField;

    private Stage stage;

    @FXML
    void DoneButtonOnClicked(ActionEvent event) {
        String bookname = NewBookField.getText();
```

```

String Authorname = NewAuthorField.getText();
App.enterBook(bookname, Authorname);
App.showAlert("Book Added!", "The Book "+bookname+" is Added to the
Database");
}
@FXML
void backButtonOnClicked(ActionEvent event) {
try{
Parent root = FXMLLoader.load(getClass().getResource("MainMenu.fxml"));
Scene scene = new Scene(root);
stage = (Stage)((Node)event.getSource()).getScene().getWindow();
stage.setScene(scene);
stage.show();
}
catch(IOException e){
e.printStackTrace();
}
}
}

```

8. MainMenu.fxml

```

<?xml version="1.0" encoding="UTF-8"?>
<?import javafx.scene.control.Button?>
<?import javafx.scene.control.Menu?>
<?import javafx.scene.control.MenuBar?>
<?import javafx.scene.control.MenuItem?>

```

```
<?import javafx.scene.control.SeparatorMenuItem?>
<?import javafx.scene.image.Image?>
<?import javafx.scene.image.ImageView?>
<?import javafx.scene.layout.AnchorPane?>
<?import javafx.scene.layout.VBox?>
<?import javafx.scene.text.Font?>
<?import javafx.scene.text.Text?>
<VBox prefHeight="400.0" prefWidth="640.0"
xmlns="http://javafx.com/javafx/21" xmlns:fx="http://javafx.com/fxml/1"
fx:controller="MainMenuController">
<children>
<MenuBar VBox.vgrow="NEVER">
<menus>
<Menu mnemonicParsing="false" text="File">
<items>
<MenuItem mnemonicParsing="false" text="New" />
<MenuItem mnemonicParsing="false" text="Open..." />
<Menu mnemonicParsing="false" text="Open Recent" />
<SeparatorMenuItem mnemonicParsing="false" />
<MenuItem mnemonicParsing="false" text="Close" />
<MenuItem mnemonicParsing="false" text="Save" />
<MenuItem mnemonicParsing="false" text="Save As..." />
<MenuItem mnemonicParsing="false" text="Revert" />
<SeparatorMenuItem mnemonicParsing="false" />
<MenuItem mnemonicParsing="false" text="Preferences..." />
<SeparatorMenuItem mnemonicParsing="false" />
<MenuItem mnemonicParsing="false" text="Quit" />
```

```
</items>
</Menu>
<Menu mnemonicParsing="false" text="Edit">
<items>
<MenuItem mnemonicParsing="false" text="Undo" />
<MenuItem mnemonicParsing="false" text="Redo" />
<SeparatorMenuItem mnemonicParsing="false" />
<MenuItem mnemonicParsing="false" text="Cut" />
<MenuItem mnemonicParsing="false" text="Copy" />
<MenuItem mnemonicParsing="false" text="Paste" />
<MenuItem mnemonicParsing="false" text="Delete" />
<SeparatorMenuItem mnemonicParsing="false" />
<MenuItem mnemonicParsing="false" text="Select All" />
<MenuItem mnemonicParsing="false" text="Unselect All" />
</items>
</Menu>
<Menu mnemonicParsing="false" text="Help">
<items>
<MenuItem mnemonicParsing="false" text="About MyHelloApp" />
</items>
</Menu>
</menus>
</MenuBar>
<AnchorPane maxHeight="-1.0" maxWidth="-1.0" prefHeight="-1.0"
prefWidth="-1.0" VBox.vgrow="ALWAYS">
<children>
<ImageView fitHeight="425.0" fitWidth="648.0" pickOnBounds="true">
```

```
<image>
<Image url="@../img/Menu.jpg" />
</image>
</ImageView>
<Text fontSmoothingType="LCD" layoutX="111.0" layoutY="63.0"
stroke="WHITE" strokeType="OUTSIDE" strokeWidth="2.0" text="Library
Management System" textAlignment="JUSTIFY">
<font>
<Font name="Leelawadee Bold" size="40.0" />
</font>
</Text>
<VBox alignment="CENTER" fillWidth="false" layoutX="471.0" layoutY="105.0"
prefHeight="200.0" prefWidth="163.0" spacing="20.0">
<children>
<Button fx:id="showBooks" mnemonicParsing="false"
onAction="#OnClickShowBooks" style="-fx-background-color: #36ffb8;"
text="Show Books">
<font>
<Font name="Arial Bold" size="19.0" />
</font>
</Button>
<Button fx:id="insertBooks" mnemonicParsing="false"
onAction="#OnClickInsertBooks" style="-fx-background-color: #36ffb8;"
text="Insert Books">
<font>
<Font name="Arial Bold" size="19.0" />
</font>
</Button>
```

```

<Button fx:id="updateBooks" mnemonicParsing="false"
onAction="#OnClickUpdateBooks" style="-fx-background-color: #36ffb8;"
text="Update Books">

<font>

<Font name="Arial Bold" size="19.0" />

</font>

</Button>

<Button fx:id="deleteBooks" mnemonicParsing="false"
onAction="#OnClickDeleteBooks" style="-fx-background-color: #36ffb8;"
text="Delete Books">

<font>

<Font name="Arial Bold" size="19.0" />

</font>

</Button>

</children>

</VBox>

</children>

</AnchorPane>

</children>

</VBox>

```

9. MainMenuController.java

```

import javafx.fxml.FXML;
import javafx.fxml.FXMLLoader;
import javafx.scene.Node;
import javafx.scene.Parent;

```

```
import javafx.scene.Scene;
import javafx.stage.Stage;
import javafx.scene.control.Button;
import java.io.IOException;
import javafx.event.ActionEvent;
public class MainMenuController {
    @FXML
    private Button deleteBooks;
    @FXML
    private Button insertBooks;
    @FXML
    private Button showBooks;
    @FXML
    private Button updateBooks;
    private Stage stage;
    @FXML
    void OnClickDeleteBooks(ActionEvent event) {
        try{
            Parent root =
                FXMLLoader.load(getClass().getResource("BookDetailsAndDeletion.fxml"));
            Scene scene = new Scene(root);
            stage = (Stage)((Node)event.getSource()).getScene().getWindow();
            stage.setScene(scene);
            stage.show();
        }
        catch(IOException e){
            e.printStackTrace();
        }
    }
}
```



```
}
```

```
}
```

```
@FXML
```

```
void OnClickInsertBooks(ActionEvent event) {
```

```
try{
```

```
Parent root = FXMLLoader.load(getClass().getResource("InsertBook.fxml"));
```

```
Scene scene = new Scene(root);
```

```
stage = (Stage)((Node)event.getSource()).getScene().getWindow();
```

```
stage.setScene(scene);
```

```
stage.show();
```

```
}
```

```
catch(IOException e){
```

```
e.printStackTrace();
```

```
}
```

```
}
```

```
@FXML
```

```
void OnClickShowBooks(ActionEvent event) {
```

```
try{
```

```
Parent root = FXMLLoader.load(getClass().getResource("BookDetails.fxml"));
```

```
Scene scene = new Scene(root);
```

```
stage = (Stage)((Node)event.getSource()).getScene().getWindow();
```

```
stage.setScene(scene);
```

```
stage.show();
```

```
}
```

```
catch(IOException e){
```

```
e.printStackTrace();
```

```
}
```

```
}
```

```
@FXML
```

```
void OnClickUpdateBooks(ActionEvent event) {
```

```
}
```

```
}
```

SAMPLE OUTPUT:









