**Sources:**

CISC190 Java Programming’s final week project by Professor Behnam Salemi at San Diego City College

MS Bing Chat Copilot

**+Contributors:**

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In Eclipse, to help JavaFX works with SceneBuilder

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**On SceneBuilder executable path, click Browse, then find the SceneBuilder.exe file on your device**

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**Click Apply->Apply and Close**

**On your project, right click, New, File**

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**Create a file named Primary.fxml**

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**You can right click on this file and click Open with SceneBuilder**

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**Let’s add something and then save this file**

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Notice that I’m not going to specify the steps that I did to create those tools above here. You don’t have to write a program like me above, but if you do, here are more steps to do to make sure your program works well.

Now if you save this fxml file, you can see the syntax in your Primary.fxml file looks like this:

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

<?import javafx.geometry.Insets?>

<?import javafx.scene.control.Button?>

<?import javafx.scene.control.Label?>

<?import javafx.scene.control.TextField?>

<?import javafx.scene.layout.HBox?>

<?import javafx.scene.text.Font?>

<HBox maxHeight=*"-Infinity"* maxWidth=*"-Infinity"* minHeight=*"-Infinity"* minWidth=*"-Infinity"* prefHeight=*"372.0"* prefWidth=*"798.0"* xmlns=*"http://javafx.com/javafx/23.0.1"* xmlns:fx=*"http://javafx.com/fxml/1"* fx:controller=*"application.PrimaryController"*>

Notice the line **“application.PrimaryController”**, application is **the name of the package your project is working with**, you can find this name at the first line of your main application java file

Ex:

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PrimaryController is the name of another java file that can be used as the controller for your program. This controller file will contain the tools and methods for your app depending on the scene you're trying to create.

=>This means you need to create a file called PrimaryController.java

<children>

<Label fx:id=*"myLabel1"* prefHeight=*"34.0"* prefWidth=*"310.0"* text=*"Type 2 numbers into 2 text field: "*>

<font>

<Font size=*"20.0"* />

</font>

<HBox.margin>

<Insets bottom=*"10.0"* left=*"10.0"* right=*"10.0"* top=*"10.0"* />

</HBox.margin>

</Label>

<TextField fx:id=*"myTextField1"* prefHeight=*"36.0"* prefWidth=*"62.0"*>

<HBox.margin>

<Insets bottom=*"10.0"* left=*"10.0"* right=*"10.0"* top=*"10.0"* />

</HBox.margin>

<font>

<Font size=*"20.0"* />

</font>

</TextField>

<TextField fx:id=*"myTextField2"* prefHeight=*"42.0"* prefWidth=*"58.0"*>

<padding>

<Insets bottom=*"5.0"* left=*"5.0"* right=*"5.0"* top=*"5.0"* />

</padding>

<HBox.margin>

<Insets bottom=*"10.0"* left=*"10.0"* right=*"10.0"* top=*"10.0"* />

</HBox.margin>

<font>

<Font size=*"20.0"* />

</font>

</TextField>

<Label fx:id=*"myLabel2"* alignment=*"CENTER"* prefHeight=*"32.0"* prefWidth=*"38.0"* text=*"="* textAlignment=*"CENTER"*>

<font>

<Font size=*"26.0"* />

</font>

<HBox.margin>

<Insets bottom=*"10.0"* left=*"10.0"* right=*"10.0"* top=*"10.0"* />

</HBox.margin>

</Label>

<Label fx:id=*"myLabel3"* prefHeight=*"30.0"* prefWidth=*"67.0"*>

<HBox.margin>

<Insets bottom=*"10.0"* left=*"10.0"* right=*"10.0"* top=*"10.0"* />

</HBox.margin>

<font>

<Font size=*"20.0"* />

</font>

</Label>

<Button fx:id=*"add\_button"* mnemonicParsing=*"false"* onAction=*"#addButtonActivate"* style=*"-fx-background-color: black;"* text=*"ADD"* textFill=*"#1ab911"*>

<font>

<Font size=*"20.0"* />

</font>

<HBox.margin>

<Insets bottom=*"10.0"* left=*"10.0"* right=*"10.0"* top=*"10.0"* />

</HBox.margin>

</Button>

</children>

</HBox>

**\*Creating PrimaryController.java file and add contents into it\***

**Here is the contents of PrimaryController.java file:**

**package** application;

**import** java.io.IOException;

**import** javafx.fxml.FXML;

**import** javafx.scene.control.Label;

**import** javafx.scene.control.Button;

**import** javafx.scene.control.TextField;

**public** **class** **PrimaryController** {

//First we need to make sure that we write override syntax for all the tools that we see on the SceneBuilder, yet we don’t need to instantiate them.

//Notice that their names must be the same as fx:id= properties on each tool’s tag inside fxml file

**@FXML //This statement will override some statements from fxml file**

**Label** myLabel1;

**@FXML**

**TextField** myTextField1;

**@FXML**

**TextField** myTextField2;

**@FXML**

**Label** myLabel2;

**@FXML**

**Label** myLabel3;

**@FXML**

**Button** add\_button;

**@FXML**

**private** **void** **addButtonActivate**() **throws** **IOException** {

**System**.**out**.**println**(**"Add Button was pressed!"**);

**String** **text1** = myTextField1.**getText**();

**String** **text2** = myTextField2.**getText**();

**float** **number1** = **Float**.***parseFloat***(text1);

**float** **number2** = **Float**.***parseFloat***(text2);

myLabel3.**setText**(**Float**.***toString***(number1+number2));

}

}

**\*Making your project interacts with fxml file and controller file\***

**To make sure that your project can interact with fxml file and controller file, you should add more syntaxes like below into your Main.java file:**

**package** application;

**import** java.io.\*;

**import** javafx.application.Application;

**import** javafx.stage.Stage;

**import** javafx.scene.Scene;

**import** javafx.event.ActionEvent;

**import** javafx.event.EventHandler;

**import** javafx.fxml.FXMLLoader;

**import** javafx.scene.Parent;

**public** **class** **Main** **extends** Application {

**private** **static** **Scene** *scene*;

**@Override**

**public** **void** **start**(**Stage** stage) **throws** **IOException** {

*scene* = **new** **Scene**(***loadFXML***(**"primary"**), **320**, **240**);

stage.**setScene**(*scene*);

stage.**show**();

}

**static** **void** **setRoot**(**String** fxml) **throws** **IOException** {

*scene*.**setRoot**(***loadFXML***(fxml));

}

**private** **static** Parent **loadFXML**(**String** fxml) **throws** **IOException** {

**FXMLLoader** **fxmlLoader** = **new** **FXMLLoader**(**Main**.**class**.**getResource**(fxml + **".fxml"**));

**return** fxmlLoader.**load**();

}

**public** **static** **void** **main**(**String**[] args) {

***launch***();

}

}

**Now run Main.java file:**

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**The source code for this project can be found in Simple\_GUI\_App folder**

**In addition,** To help your JavaFX program works with SceneBuilder smoothly, you may expand the content of module-info.java file like this:

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Let’s say I have a project called **RQT\_Real\_Estate**, the name of the module from the first statement above should be **module RQT\_Real\_Estate {**

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**A screenshot of a computer program

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Let’s say you have a controller java file named **TopNavigationBarController.java** that is placed in folder **application/MainPageScene/TopNavigationBar**

**=>**You may have to write another **opens line** into **module-info.java file**

**Ex:**

**module** RQT\_Real\_Estate {

**requires** javafx.controls;

**requires** javafx.fxml;

**opens** application **to** javafx.graphics, javafx.fxml;

**opens** application.MainPageScene.TopNavigationBar **to** javafx.graphics, javafx.fxml;

}

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**A screenshot of a computer error

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**A close-up of a white background

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