

```

1 package com.example.vphw031;
2
3 import javafx.application.Platform;
4 import javafx.event.ActionEvent;
5 import javafx.fxml.FXML;
6 import javafx.scene.control.Button;
7 import javafx.scene.control.TextField;
8
9 import java.math.RoundingMode;
10 import java.text.DecimalFormat;
11
12 public class HelloController {
13     @FXML
14     private Button calc_btn;
15
16     @FXML
17     private Button close_btn;
18
19     @FXML
20     private TextField marked_price;
21
22     @FXML
23     private TextField net_price;
24
25     @FXML
26     private TextField tax_mount;
27
28     @FXML
29     private TextField tax_rate;
30
31     @FXML
32     void calcTaxAndNet(ActionEvent event) {
33         double markedPrice;
34         try {
35             markedPrice = Double.parseDouble(marked_price.getText().trim());
36             marked_price.setStyle("-fx-border-color: #d3d3d3; -fx-border-radius: 3px;");
37         } catch (NumberFormatException err) {
38             marked_price.setStyle("-fx-border-color: #f00; -fx-border-radius: 3px;");
39             return;
40         }
41
42         double taxRate;
43         try {
44             String str = tax_rate.getText().trim();
45             if(str.charAt(str.length() - 1) == '%'){
46                 str = str.substring(0, str.length() - 1);
47             }
48             System.out.println("str: " + str);
49             taxRate = Double.parseDouble(str);
50             tax_rate.setStyle("-fx-border-color: #d3d3d3; -fx-border-radius: 3px;");
51         } catch (NumberFormatException err) {
52             tax_rate.setStyle("-fx-border-color: #f00; -fx-border-radius: 3px;");
53             return;
54         }
55
56         double taxAmount = markedPrice/taxRate;
57         tax_mount.setText("$" + truncate(taxAmount));
58
59         double netPrice = markedPrice + taxAmount;
60         net_price.setText("$" + truncate(netPrice));
61
62     }

```

```
63
64     @FXML
65     void close(ActionEvent event) {
66         Platform.exit();
67     }
68
69     public static String truncate(double input) {
70         DecimalFormat decimalFormat = new DecimalFormat("0.00");
71         decimalFormat.setRoundingMode(RoundingMode.DOWN);
72         String formatResult = decimalFormat.format(input);
73         return formatResult;
74     }
75 }
```

```

1 <?xml version="1.0" encoding="UTF-8"?>
2
3 <?import javafx.geometry.Insets?>
4 <?import javafx.scene.control.Button?>
5 <?import javafx.scene.control.Label?>
6 <?import javafx.scene.control.Separator?>
7 <?import javafx.scene.control.TextField?>
8 <?import javafx.scene.layout.ColumnConstraints?>
9 <?import javafx.scene.layout.GridPane?>
10 <?import javafx.scene.layout.RowConstraints?>
11
12 <GridPane alignment="TOP_CENTER" hgap="10.0" maxHeight="400.0" maxWidth="600.0" minHeight="-
Infinity" minWidth="-Infinity" prefHeight="190.0" prefWidth="330.0" vgap="10.0" xmlns:fx="http
://javafx.com/fxml/1" xmlns="http://javafx.com/javafx/17" fx:controller="com.example.vphw031.
HelloController">
13     <columnConstraints>
14         <ColumnConstraints hgrow="SOMETIMES" maxWidth="100.0" minWidth="10.0" prefWidth="50.0" />
15         <ColumnConstraints hgrow="SOMETIMES" maxWidth="100.0" minWidth="10.0" prefWidth="50.0" />
16         <ColumnConstraints hgrow="SOMETIMES" maxWidth="100.0" minWidth="10.0" prefWidth="50.0"
/>
17     </columnConstraints>
18     <rowConstraints>
19         <RowConstraints maxHeight="30.0" minHeight="10.0" prefHeight="30.0" vgrow="SOMETIMES" />
20         <RowConstraints maxHeight="30.0" minHeight="10.0" prefHeight="30.0" vgrow="SOMETIMES" />
21         <RowConstraints maxHeight="30.0" minHeight="10.0" prefHeight="30.0" vgrow="SOMETIMES" />
22         <RowConstraints maxHeight="30.0" minHeight="10.0" prefHeight="30.0" vgrow="SOMETIMES" />
23         <RowConstraints maxHeight="30.0" minHeight="10.0" prefHeight="30.0" vgrow="SOMETIMES" />
24     </rowConstraints>
25     <children>
26         <Label text="Marked Price:">
27             <GridPane.margin>
28                 <Insets left="10.0" />
29             </GridPane.margin>
30         </Label>
31         <TextField fx:id="marked_price" alignment="CENTER_RIGHT" GridPane.columnIndex="1" />
32         <Label text="Tax Rate:" GridPane.rowIndex="1">
33             <GridPane.margin>
34                 <Insets left="10.0" />
35             </GridPane.margin>
36         </Label>
37         <TextField fx:id="tax_rate" alignment="CENTER_RIGHT" text="0.00%" GridPane.columnIndex="
1" GridPane.rowIndex="1" />
38         <TextField fx:id="tax_mount" alignment="CENTER_RIGHT" disable="true" GridPane.
columnIndex="1" GridPane.rowIndex="3" />
39         <TextField fx:id="net_price" alignment="CENTER_RIGHT" disable="true" GridPane.
columnIndex="1" GridPane.rowIndex="4" />
40         <Label text="Tax Mount:" GridPane.rowIndex="3">
41             <GridPane.margin>
42                 <Insets left="10.0" />
43             </GridPane.margin>
44         </Label>
45         <Label text="Net Price:" GridPane.rowIndex="4">
46             <GridPane.margin>
47                 <Insets left="10.0" />
48             </GridPane.margin>
49         </Label>
50         <Separator prefWidth="200.0" GridPane.columnSpan="3" GridPane.rowIndex="2" />
51         <Button fx:id="calc_btn" alignment="TOP_CENTER" mnemonicParsing="false" onAction="#
calcTaxAndNet" onKeyPressed="#calcTaxAndNet" prefHeight="25.0" prefWidth="121.0" text="
Calculate" GridPane.columnIndex="2" GridPane.rowIndex="1" />
52         <Button fx:id="close_btn" alignment="CENTER" mnemonicParsing="false" onAction="#close"
prefHeight="25.0" prefWidth="152.0" text="Close" GridPane.columnIndex="2" GridPane.rowIndex="4

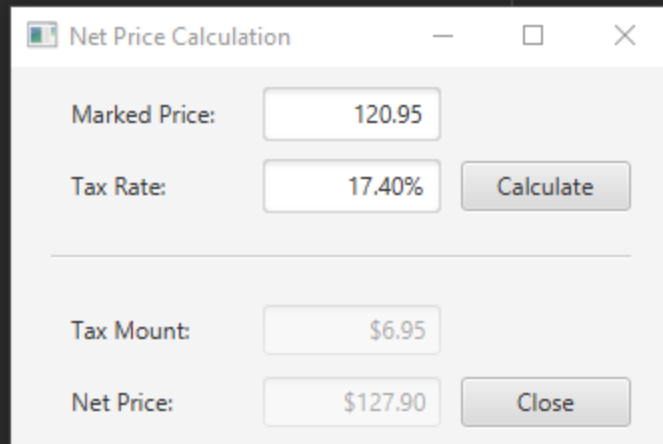
```

```
52 " />
53 </children>
54 <padding>
55   <Insets bottom="10.0" left="20.0" right="20.0" top="10.0" />
56 </padding>
57 </GridPane>
58
```

```
double taxRate;  
try {  
    String str = tax_rate.getText().trim();  
    if(str.charAt(str.length() - 1) == '%'){  
        str = str.substring(0, str.length() - 1);  
    }  
    System.out.println("str: " + str);  
    taxRate = Double.parseDouble(str);  
    tax_rate.setStyle("-fx-border-color: #d3d3d3; -fx-border-radius: 3px;");  
} catch (NumberFormatException err) {  
    tax_rate.setStyle("-fx-border-color: #f00; -fx-border-radius: 3px;");  
    return;  
}
```

```
double taxAmount = markedPrice/taxRate;  
tax_mount.setText("$" + truncate(taxAmount));
```

```
double netPrice = markedPrice + taxAmount;  
net_price.setText("$" + truncate(netPrice));
```



A screenshot of a Java Swing window titled "Net Price Calculation". The window has a standard title bar with minimize, maximize, and close buttons. It contains four rows of input fields and buttons. The first row has "Marked Price:" followed by a text box containing "120.95". The second row has "Tax Rate:" followed by a text box containing "17.40%" and a "Calculate" button. A horizontal line separates the input section from the output section. The third row has "Tax Mount:" followed by a text box containing "\$6.95". The fourth row has "Net Price:" followed by a text box containing "\$127.90" and a "Close" button.

Marked Price:	120.95	
Tax Rate:	17.40%	Calculate
<hr/>		
Tax Mount:	\$6.95	
Net Price:	\$127.90	Close

```

1 package com.example.vphw032;
2
3 import javafx.application.Platform;
4 import javafx.event.ActionEvent;
5 import javafx.fxml.FXML;
6 import javafx.scene.Node;
7 import javafx.scene.chart.*;
8 import javafx.scene.control.Button;
9 import javafx.scene.control.TextField;
10 import javafx.scene.input.MouseEvent;
11
12 public class HelloController {
13     @FXML
14     private Button btnClose;
15
16     @FXML
17     private Button btnGenerate;
18
19     @FXML
20     private BarChart<String, Number> barChart;
21
22     @FXML
23     private TextField txtCurrentQtr1;
24
25     @FXML
26     private TextField txtCurrentQtr2;
27
28     @FXML
29     private TextField txtCurrentQtr3;
30
31     @FXML
32     private TextField txtCurrentQtr4;
33
34     @FXML
35     private TextField txtPreviousQtr1;
36
37     @FXML
38     private TextField txtPreviousQtr2;
39
40     @FXML
41     private TextField txtPreviousQtr3;
42
43     @FXML
44     private TextField txtPreviousQtr4;
45
46     @FXML
47     private CategoryAxis x;
48
49     @FXML
50     private NumberAxis y;
51
52     @FXML
53     void close(ActionEvent event) {
54         Platform.exit();
55     }
56
57     @FXML
58     void setBarChartColor(MouseEvent event) {
59         //set first bar color
60         for(Node n:barChart.lookupAll(".default-color0.chart-bar")) {
61             n.setStyle("-fx-bar-fill: #ff391f;");
62         }

```

```

63
64 //second bar color
65 for(Node n:barChart.lookupAll(".default-color1.chart-bar")) {
66     n.setStyle("-fx-bar-fill: #1e90ff;");
67 }
68 }
69
70 @FXML
71 void generate(ActionEvent event) {
72     if(barChart.getData().isEmpty()){
73
74         int[] curr = new int[4];
75         int[] pre = new int[4];
76
77         if(txtCurrentQtr1 == null || txtCurrentQtr2 == null || txtCurrentQtr3 == null ||
txtCurrentQtr4 == null){
78             return;
79         }
80
81         if(txtPreviousQtr1 == null || txtPreviousQtr2 == null || txtPreviousQtr3 == null
|| txtPreviousQtr4 == null){
82             return;
83         }
84
85         try {
86             curr[0] = Integer.parseInt(txtCurrentQtr1.getText().trim());
87             txtCurrentQtr1.setStyle("-fx-border-color: #d3d3d3; -fx-border-radius: 3px;"
);
88         } catch (NumberFormatException err) {
89             txtCurrentQtr1.setStyle("-fx-border-color: #f00; -fx-border-radius: 3px;");
90             return;
91         }
92
93         try {
94             curr[1] = Integer.parseInt(txtCurrentQtr2.getText().trim());
95             txtCurrentQtr2.setStyle("-fx-border-color: #d3d3d3; -fx-border-radius: 3px;"
);
96         } catch (NumberFormatException err) {
97             txtCurrentQtr2.setStyle("-fx-border-color: #f00; -fx-border-radius: 3px;");
98             return;
99         }
100
101         try {
102             curr[2] = Integer.parseInt(txtCurrentQtr3.getText().trim());
103             txtCurrentQtr3.setStyle("-fx-border-color: #d3d3d3; -fx-border-radius: 3px;"
);
104         } catch (NumberFormatException err) {
105             txtCurrentQtr3.setStyle("-fx-border-color: #f00; -fx-border-radius: 3px;");
106             return;
107         }
108
109         try {
110             curr[3] = Integer.parseInt(txtCurrentQtr4.getText().trim());
111             txtCurrentQtr4.setStyle("-fx-border-color: #d3d3d3; -fx-border-radius: 3px;"
);
112         } catch (NumberFormatException err) {
113             txtCurrentQtr4.setStyle("-fx-border-color: #f00; -fx-border-radius: 3px;");
114             return;
115         }
116
117
118         try {

```

```

119         pre[0] = Integer.parseInt(txtPreviousQtr1.getText().trim());
120         txtPreviousQtr1.setStyle("-fx-border-color: #d3d3d3; -fx-border-radius: 3px;"
);
121     } catch (NumberFormatException err) {
122         txtPreviousQtr1.setStyle("-fx-border-color: #f00; -fx-border-radius: 3px;");
123         return;
124     }
125
126     try {
127         pre[1] = Integer.parseInt(txtPreviousQtr2.getText().trim());
128         txtPreviousQtr2.setStyle("-fx-border-color: #d3d3d3; -fx-border-radius: 3px;"
);
129     } catch (NumberFormatException err) {
130         txtPreviousQtr2.setStyle("-fx-border-color: #f00; -fx-border-radius: 3px;");
131         return;
132     }
133
134     try {
135         pre[2] = Integer.parseInt(txtPreviousQtr3.getText().trim());
136         txtPreviousQtr3.setStyle("-fx-border-color: #d3d3d3; -fx-border-radius: 3px;"
);
137     } catch (NumberFormatException err) {
138         txtPreviousQtr3.setStyle("-fx-border-color: #f00; -fx-border-radius: 3px;");
139         return;
140     }
141
142     try {
143         pre[3] = Integer.parseInt(txtPreviousQtr4.getText().trim());
144         txtPreviousQtr4.setStyle("-fx-border-color: #d3d3d3; -fx-border-radius: 3px;"
);
145     } catch (NumberFormatException err) {
146         txtPreviousQtr4.setStyle("-fx-border-color: #f00; -fx-border-radius: 3px;");
147         return;
148     }
149
150     // Series 1 - Current Year's Sales
151     XYChart.Series<String, Number> dataSeries1 = new XYChart.Series();
152     dataSeries1.setName(null);
153
154     for(int i = 0; i < curr.length; i++){
155         dataSeries1.getData().add(new XYChart.Data(Integer.toString(i), curr[i]/100
));
156     }
157
158     // Series 2 - Previous Year's Sales
159     XYChart.Series<String, Number> dataSeries2 = new XYChart.Series();
160     dataSeries2.setName(null);
161
162     for(int i = 0; i < pre.length; i++){
163         dataSeries2.getData().add(new XYChart.Data(Integer.toString(i), pre[i]/100));
164     }
165
166     //Hide series name
167     x.setTickLabelsVisible(false);
168     x.setTickMarkVisible(false);
169
170     // Add Series to BarChart.
171     barChart.getData().addAll(dataSeries1, dataSeries2);
172 }
173 }
174 }

```



```
1 <?xml version="1.0" encoding="UTF-8"?>
2
3 <?import javafx.geometry.Insets?>
4 <?import javafx.scene.chart.BarChart?>
5 <?import javafx.scene.chart.CategoryAxis?>
6 <?import javafx.scene.chart.NumberAxis?>
7 <?import javafx.scene.control.Button?>
8 <?import javafx.scene.control.Label?>
9 <?import javafx.scene.control.Separator?>
10 <?import javafx.scene.control.TextField?>
11 <?import javafx.scene.layout.ColumnConstraints?>
12 <?import javafx.scene.layout.GridPane?>
13 <?import javafx.scene.layout.HBox?>
14 <?import javafx.scene.layout.RowConstraints?>
15 <?import javafx.scene.layout.StackPane?>
16 <?import javafx.scene.layout.VBox?>
17 <?import javafx.scene.shape.Rectangle?>
18
19 <GridPane alignment="CENTER" hgap="5.0" maxHeight="400.0" maxWidth="-Infinity" minHeight="-Infinity" minWidth="-Infinity" prefHeight="400.0" prefWidth="600.0" style="-fx-background-color: #fff;" vgap="5.0" xmlns:fx="http://javafx.com/fxml/1" xmlns="http://javafx.com/javafx/17" fx:controller="com.example.vphw032.HelloController">
20     <columnConstraints>
21         <ColumnConstraints hgrow="SOMETIMES" maxWidth="500.0" minWidth="10.0" prefWidth="300.0" />
22         <ColumnConstraints hgrow="SOMETIMES" minWidth="10.0" prefWidth="100.0" />
23     </columnConstraints>
24     <rowConstraints>
25         <RowConstraints maxHeight="80.0" minHeight="10.0" prefHeight="30.0" vgrow="SOMETIMES" />
26         <RowConstraints maxHeight="80.0" minHeight="10.0" prefHeight="30.0" vgrow="SOMETIMES" />
27         <RowConstraints maxHeight="200.0" minHeight="10.0" prefHeight="30.0" vgrow="SOMETIMES" />
28     </rowConstraints>
29     <padding>
30         <Insets bottom="20.0" left="20.0" right="20.0" top="20.0" />
31     </padding>
32     <children>
33         <StackPane prefHeight="150.0" prefWidth="200.0">
34             <children>
35                 <HBox maxHeight="65.0" prefHeight="65.0" prefWidth="378.0" spacing="10.0" style="-fx-border-color: #000;" StackPane.alignment="CENTER">
36                     <children>
37                         <VBox maxWidth="80.0" prefHeight="200.0" prefWidth="100.0">
38                             <children>
39                                 <Label alignment="CENTER" prefHeight="17.0" prefWidth="79.0" text="1st Qtr" textAlignment="RIGHT" />
40                                 <TextField fx:id="txtCurrentQtr1" alignment="CENTER_RIGHT" text="12000" />
41                             </children>
42                         </VBox>
43                         <VBox maxWidth="80.0" prefHeight="200.0" prefWidth="100.0">
44                             <children>
45                                 <Label alignment="CENTER" prefHeight="17.0" prefWidth="79.0" text="2nd Qtr" textAlignment="RIGHT" />
46                                 <TextField fx:id="txtCurrentQtr2" alignment="CENTER_RIGHT" text="14500" />
47                             </children>
48                         </VBox>
49                         <VBox maxWidth="80.0" prefHeight="200.0" prefWidth="100.0">
50                             <children>
51                                 <Label alignment="CENTER" prefHeight="17.0" prefWidth="79.0" text="3rd Qtr" textAlignment="RIGHT" />
52                                 <TextField fx:id="txtCurrentQtr3" alignment="CENTER_RIGHT" text="8500" />
53                             </children>
54                         </VBox>
55                     </children>
56                 </HBox>
57             </children>
58         </StackPane>
59     </children>
60 </GridPane>
```

```

53         </children>
54     </VBox>
55     <VBox maxWidth="80.0" prefHeight="200.0" prefWidth="100.0">
56         <children>
57             <Label alignment="CENTER" prefHeight="17.0" prefWidth="79.0" text="
4th Qtr" textAlignment="RIGHT" />
58             <TextField fx:id="txtCurrentQtr4" alignment="CENTER_RIGHT" text="
16800" />
59         </children>
60     </VBox>
61 </children>
62 <padding>
63     <Insets bottom="10.0" left="10.0" right="10.0" top="10.0" />
64 </padding>
65 </HBox>
66 <Label alignment="CENTER" prefHeight="17.0" prefWidth="113.0" style="-fx-
background-color: #fff;" text="Current Year's Sales" textAlignment="CENTER" translateX="-125.
0" translateY="-32.0" />
67 </children>
68 </StackPane>
69 <Button fx:id="btnClose" maxHeight="60.0" mnemonicParsing="false" onAction="#close"
prefHeight="60.0" prefWidth="177.0" text="Close" GridPane.columnIndex="1" />
70 <StackPane prefHeight="150.0" prefWidth="200.0" GridPane.rowIndex="1">
71     <children>
72         <HBox maxHeight="65.0" prefHeight="65.0" prefWidth="378.0" spacing="10.0" style
="-fx-border-color: #000;" StackPane.alignment="CENTER">
73             <children>
74                 <VBox maxWidth="80.0" prefHeight="200.0" prefWidth="100.0">
75                     <children>
76                         <Label alignment="CENTER" prefHeight="17.0" prefWidth="79.0" text="
1st Qtr" textAlignment="RIGHT" />
77                         <TextField fx:id="txtPreviousQtr1" alignment="CENTER_RIGHT" text="
10000" />
78                     </children>
79                 </VBox>
80                 <VBox maxWidth="80.0" prefHeight="200.0" prefWidth="100.0">
81                     <children>
82                         <Label alignment="CENTER" prefHeight="17.0" prefWidth="79.0" text="
2nd Qtr" textAlignment="RIGHT" />
83                         <TextField fx:id="txtPreviousQtr2" alignment="CENTER_RIGHT" text="
11000" />
84                     </children>
85                 </VBox>
86                 <VBox maxWidth="80.0" prefHeight="200.0" prefWidth="100.0">
87                     <children>
88                         <Label alignment="CENTER" prefHeight="17.0" prefWidth="79.0" text="
3rd Qtr" textAlignment="RIGHT" />
89                         <TextField fx:id="txtPreviousQtr3" alignment="CENTER_RIGHT" text="
12500" />
90                     </children>
91                 </VBox>
92                 <VBox maxWidth="80.0" prefHeight="200.0" prefWidth="100.0">
93                     <children>
94                         <Label alignment="CENTER" prefHeight="17.0" prefWidth="79.0" text="
4th Qtr" textAlignment="RIGHT" />
95                         <TextField fx:id="txtPreviousQtr4" alignment="CENTER_RIGHT" text="
15800" />
96                     </children>
97                 </VBox>
98 </children>
99 <padding>
100     <Insets bottom="10.0" left="10.0" right="10.0" top="10.0" />

```

```

101         </padding>
102     </HBox>
103     <Label alignment="CENTER" prefHeight="17.0" prefWidth="113.0" style="-fx-
background-color: #fff;" text="Previous Year's Sales" textAlignment="CENTER" translateX="-125
.0" translateY="-32.0" />
104 </children>
105 </StackPane>
106 <Button fx:id="btnGenerate" maxHeight="60.0" mnemonicParsing="false" onAction="#
generate" onMousePressed="#setBarChartColor" prefHeight="60.0" prefWidth="177.0" text="
Generate" GridPane.columnIndex="1" GridPane.rowIndex="1" />
107 <VBox prefHeight="200.0" prefWidth="100.0" spacing="10.0" GridPane.columnIndex="1"
GridPane.rowIndex="2">
108     <children>
109         <StackPane maxHeight="90.0" prefHeight="17.0" prefWidth="200.0">
110             <children>
111                 <Separator prefWidth="200.0" />
112                 <Label alignment="CENTER" prefHeight="17.0" prefWidth="52.0" style="-fx-
background-color: #fff;" text="Legend" translateY="-5.0" />
113             </children>
114         </StackPane>
115         <HBox alignment="CENTER" prefHeight="17.0" prefWidth="200.0">
116             <children>
117                 <Rectangle arcHeight="5.0" arcWidth="5.0" fill="#ff391f" height="17.0"
stroke="TRANSPARENT" strokeType="INSIDE" width="17.0" />
118                 <Label alignment="CENTER" contentDisplay="RIGHT" prefHeight="17.0"
prefWidth="100.0" text="This Year's Sales" />
119             </children>
120         </HBox>
121         <HBox alignment="CENTER" prefHeight="17.0" prefWidth="200.0">
122             <children>
123                 <Rectangle arcHeight="5.0" arcWidth="5.0" fill="DODGERBLUE" height="17.0"
stroke="TRANSPARENT" strokeType="INSIDE" width="17.0" />
124                 <Label alignment="CENTER" prefHeight="17.0" prefWidth="100.0" text="Last
Year's Sales" />
125             </children>
126         </HBox>
127     </children>
128 </padding>
129 <Insets bottom="5.0" left="5.0" right="5.0" top="15.0" />
130 </padding>
131 </VBox>
132 <BarChart fx:id="barChart" GridPane.rowIndex="2">
133     <xAxis>
134         <CategoryAxis side="BOTTOM" tickMarkVisible="false" fx:id="x" />
135     </xAxis>
136     <yAxis>
137         <NumberAxis fx:id="y" side="LEFT" />
138     </yAxis>
139 </BarChart>
140 </children>
141 </GridPane>
142

```

```
package com.example.vphw032;
```

```
import ...
```

```
public class HelloApplication extends Application {  
    @Override  
    public void start(Stage stage) throws IOException {  
        FXMLLoader fxmlLoader = new FXMLLoader(HelloApplication.class.getResource("HelloApplication.fxml"));  
        Scene scene = new Scene(fxmlLoader.load(), 600, 400);  
        stage.setTitle("Company Sales Annual Report!");  
        stage.setScene(scene);  
        stage.show();  
    }  
}
```

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

