EcommerceSystem (with JavaFX) by

يوسف السيد ابراهيم حسن الفقي

23011629

مجموعة الاتنين 30:30

Ecommerce System

```
package application;
  30 import javafx.application.Application;
     public class EcommerceSystem extends Application {
 110
         @Override
         public void start(Stage primaryStage) {
12
             try {
                 Parent root = FXMLLoader.load(getClass().getResource("scene.fxml"));
                 Scene scene = new Scene(root, 600, 400);
                 primaryStage.setScene(scene);
                 primaryStage.setTitle("JavaFX Application");
                 primaryStage.show();
             } catch (Exception e) {
                 e.printStackTrace();
         public static void main(String[] args) {
 260
             Launch(args);
```

Customer

```
1 package application;
       private int customerId;
       private String name;
       private String address;
       Customer(){}
90
       Customer(int customerId, String name, String address){
       this.customerId=Math.abs(customerId);
       this.name=name;
       this.address=address:
       void setCID(int a){
160
       customerId=Math.abs(a);
190
       name=b;
220
       address=c;
260
       int getCID(){
       return customerId;
290
       String getname(){
       return name;
320
       String getaddress(){
       return address;
```

Product

```
backage application;
 3 public class Product {
 4 private int productId;
 5 private String name;
 6 private float price;
       Product(){}
       Product(int pId, String pname, float pprice){
100
       productId = Math.abs(pId);
       name = pname;
       price = Math.abs(pprice);
160
       productId = Math.abs(x);
190
       void setname(String y){
       name = y;
220
       price = Math.abs(z);
260
       int getId(){
       return productId;
290
       String getname(){
       return name;
320
       float getprice(){
       return price;
```

ElectronicProduct

```
package application;
       private String brand;
       private int warrantyPeriod;
       ElectronicProduct(){}
 89
       ElectronicProduct(int pId, String pname, float pprice, String brand, int warrantyPeriod){
       super(pId, pname, pprice);
       this.brand = brand;
       this.warrantyPeriod=Math.abs(warrantyPeriod);
       void setbrand(String a){
140
       brand= a;
       void setwarrantyPeriod(int b){
170
       warrantyPeriod = Math.abs(b);
220
       int getwarrantyPeriod(){
       return warrantyPeriod;
250
       String getbrand(){
       return brand;
```

ClothingProduct

```
package application;
       private String fabric;
       ClothingProduct(){}
 80
       ClothingProduct(int pId, String pname, float pprice, String size, String fabric){
       super(pId, pname, pprice);
       this.size = size;
       this.fabric = fabric;
       void setsize(String a){
140
       size= a:
170
       void setfabric(String b){
       fabric = b;
       String getsize(){
230
       return size;
       String getfabric(){
260
       return fabric;
```

BookProduct

```
package application;
        private String author;
        private String publisher;
       BookProduct(){}
       BookProduct(int pId, String pname, float pprice, String author, String publisher){
90
        super(pId, pname, pprice);
       this.author = author;
        this.publisher = publisher;
       void setauthor(String a){
150
        author= a;
180
       void setpublisher(String b){
        publisher = b;
240
       String getauthor(){
        return author;
270
       String getpublisher(){
        return publisher;
```

Cart p1

```
package application;
   import java.util.Scanner;
       private Order order;
       private int customerId;
       private int nProducts;
       private Product[] products = new Product[nProducts];
       Scanner input = new Scanner(System.in);
       String orderInfo;
120
       Cart(int customerId, int nProducts, Product products[]){
140
       this.customerId=Math.abs(customerId);
       this.products=products;
20€
       customerId=Math.abs(a);
       void setnProducts(int b){
230
       void setArray(Product products[]){
260
       this.products=products;
310
       int getCID(){
       return customerId;
340
       return nProducts;
       Product[] getproducts(){
37€
       return products;
```

Cart p2

```
void addProduct(Product product) {
   if (nProducts < products.length) {
        products[nProducts] = product;
        nProducts++;
void removeProduct(Product[] products, int index) {
   if (index < 0 || index >= products.length) {
       System.out.println("Invalid index!!!");
   Product[] newProducts = new Product[products.length - 1];
   int newIndex = 0;
   for (int i = 0; i < products.length; i++) {
        if (i == index) {
        newProducts[newIndex] = products[i];
        newIndex++;
   this.products = newProducts;
   nProducts--;
float calculatePrice(){
   float totalPrice = 0;
   for(int i=0; i<this.products.length; i++){
        totalPrice = totalPrice + this.products[i].getprice();
   return (float)totalPrice;
void placeOrder() {
        Order order = new Order(customerId, 121, products, calculatePrice());
        orderInfo = order.printOrderInfo();
```

Order

```
1 package application;
        private int customerId;
        private int orderId;
        private Product[] products;
        private float totalPrice;
8
        private String orderSummary;
        Order(){}
 110
        Order(int customerId, int orderId, Product[] products, float totalPrice){
         this.customerId=Math.abs(customerId);
         this.orderId=Math.abs(orderId);
         this.products=products;
         this.totalPrice=totalPrice;
 180
         public String printOrderInfo() {
             String orderInfo = "Here's your order summary:\n" +
                                "Order ID: " + orderId + "\n" +
                                "Customer ID: " + customerId + "\n" +
                                "Products: \n";
             for (Product product : products) {
                 orderInfo += product.getname() + " - $" + product.getprice() + "\n";
             orderInfo += "Total Price: $" + totalPrice;
            System.out.println(orderInfo);
             return orderInfo;
```

Controller files Controller1

1 package application;

20 import java.io.IOException;

```
13 public class Controller {
       private Stage stage:
170
       private Label myLabel;
190
       private TextField TField1;
210
       private TextField TField2;
230
       private TextField TField3;
250
       private Button button:
       int customerID:
       String address;
300
       public void submit(ActionEvent event) {
               customerID = Integer.parseInt(TField2.getText().trim());
                if (customerID <= 0) {
                    throw new IllegalArgumentException("Customer ID must be a positive integer.");
               name = TField1.getText();
                address = TField3.getText();
               Customer customer = new Customer(customerID, name, address);
               FXMLLoader loader = new FXMLLoader(getClass().getResource("scene2.fxml"));
               root=loader.load();
               Controller2 scene2 = loader.getController();
               scene2.setAll(customer.getCID(), customer.getname());
                stage = (Stage)((Node)event.getSource()).getScene().getWindow();
               scene = new Scene(root);
               stage.setScene(scene);
                stage.show();
           } catch (NumberFormatException e) {
               myLabel.setText("Please enter a valid Customer ID.");
           } catch (IllegalArgumentException e) {
               myLabel.setText(e.getMessage());
            } catch (IOException e) {
               e.printStackTrace();
600
           Parent root = FXMLLoader.Load(getClass().getResource("scene.fxml"));
           stage = (Stage)((Node)event.getSource()).getScene().getWindow();
           scene = new Scene(root);
           stage.setScene(scene);
           stage.show();
67 }
```

Controller2

```
1 package application;
 30 import java.io.IOException;□
169
        Label label;
180
        Label label2;
200
        Button button;
220
        TextField nProductsField;
        private String name;
24
        private int customerID;
        int nProducts;
        void setAll(int customerID, String name){
270
            this.customerID=customerID;
            this.name=name:
            label2.setText("Hello,"+name);
        public void goToShop(ActionEvent event) {
330
            try {nProducts = Integer.parseInt(nProductsField.getText().trim());
            if (nProducts <= 0) {
                throw new IllegalArgumentException("The number of products must be a positive integer");
            FXMLLoader loader = new FXMLLoader(getClass().getResource("Scene3.fxml"));
            Parent root = loader.load();
            Controller3 controller3 = loader.getController();
            controller3.setNProducts(customerID,nProducts);
            Stage stage = (Stage)((Node)event.getSource()).getScene().getWindow();
            Scene scene = new Scene(root);
            stage.setScene(scene);
            stage.show();
            catch (NumberFormatException e) {
                label.setText("Please enter a positive integer");
            catch (IllegalArgumentException e) {
                label.setText(e.getMessage());
            } catch (IOException e) {
                e.printStackTrace();
```

Controller3 pt1

```
package application;
 30 import java.io.IOException;□
18 public class Controller3 {
       int customerID;
       int nProducts;
       Product[] products;
       int productCount = 0;
       Cart cart = new Cart();
26⊕
       Label label;
28€
       Button add;
30€
       ImageView smartphone;
320
       ImageView tshirt;
       ImageView oop;
34€
       RadioButton rButton1;
36€
38€
       RadioButton rButton2;
40€
       RadioButton rButton3;□
       ToggleGroup productToggleGroup;□
42€
45€
       public void initialize() {
490
        public void setNProducts(int customerID, int nProducts) {
           this.nProducts = nProducts;
           this.products = new Product[nProducts];
           this.customerID = customerID;
           this.cart = new Cart(customerID, nProducts, products);
560
       @FXML
       public void handleRadioButtonAction(ActionEvent event) {
           RadioButton selectedRadioButton = (RadioButton) productToggleGroup.getSelectedToggle();
           if (selectedRadioButton != null) {
               add.setDisable(false);
```

Controller3 pt2

@FXML

public void addToCart(ActionEvent event) {

```
RadioButton selectedRadioButton = (RadioButton) productToggleGroup.getSelectedToggle();
           if (selectedRadioButton != null) {
               int productChoice = Integer.parseInt(selectedRadioButton.getId().substring(7));
               if (productCount < nProducts) {
                   switch (productChoice) {
                           products[productCount] = new ElectronicProduct(1, "Smartphone", 599.99f, "Samsung", 1);
                           products[productCount] = new ClothingProduct(2, "T-Shirt", 19.99f, "Medium", "Cotton");
                           products[productCount] = new BookProduct(3, "00P", 39.99f, "0'Reilly", "X Publications");
                   cart.addProduct(products[productCount]);
                   if (productCount == nProducts - 1) {
                       switchToScene4();
                   productCount++;
           add.setDisable(true);
920
       @FXML
       private void switchToScene4() {
           try {
               FXMLLoader loader = new FXMLLoader(getClass().getResource("Scene4.fxm1"));
               Parent root = loader.load();
               Controller4 controller4 = loader.getController();
               controller4.setCart(cart);
               Stage stage = (Stage) add.getScene().getWindow();
               Scene scene = new Scene(root);
               stage.setScene(scene);
               stage.show();
           } catch (IOException e) {
               e.printStackTrace();
```

Controller4 pt1

```
import java.io.IOException;
   import javafx.event.ActionEvent;
  import javafx.fxml.FXML;
  import javafx.fxml.FXMLLoader;
8 import javafx.scene.Parent;
9 import javafx.scene.Scene;
10 import javafx.scene.control.Button;
import javafx.scene.control.Label;
import javafx.stage.Stage;
40 public class Controller4 {
       private Cart cart;
       public void setCart(Cart cart) {
           this.cart = cart;
       @FXML
       private Label label;
       @FXML
       private Button yesButton;
       @FXML
       private Button noButton;
       @FXML
       public void initialize() {
           if (label != null) {
               label.setText("Would you like to place the Order?");
               label.setStyle("-fx-font-size: 24px;");
           } else {
               System.err.println("Error: Label is not properly initialized.");
       private void handleYesButton() {
          cart.placeOrder();
           switchToScene5();
       @FXML
       private void handleNoButton() {
           switchToScene6(cart);
```

1 package application;

Controller4 pt2

```
@FXML
         private void switchToScene5() {
             try {
                 FXMLLoader loader = new FXMLLoader(getClass().getResource("Scene5.fxml"));
                 Parent root = loader.load();
                 Controller5 controller5 = loader.getController();
                 if (controller5 != null) {
                     controller5.setOrderInfo(cart.orderInfo);
                 } else {
                     System.err.println("Error: Controller5 is null.");
                 Stage stage = (Stage) yesButton.getScene().getWindow();
                 Scene scene = new Scene(root);
                 stage.setScene(scene);
                 stage.show();
             } catch (IOException e) {
                 e.printStackTrace();
         @FXML
 720
A74
         private void switchToScene6(Cart cart) {
                 FXMLLoader loader = new FXMLLoader(getClass().getResource("Scene6.fxml"));
                 Controller6 controller6 = new Controller6();
                 controller6.setCart(cart);
                 loader.setController(controller6);
                 Parent root = loader.load();
                 Stage stage = (Stage) noButton.getScene().getWindow();
                 Scene scene = new Scene(root);
                 stage.setScene(scene);
                 stage.show();
             } catch (IOException e) {
                 e.printStackTrace();
```

Controller5

```
package application;
 3⊜ import javafx.fxml.FXML;
   import javafx.scene.control.Label;
       @FXML
       private Label orderLabel;
100
       public void setOrderInfo(String orderInfo) {
           orderLabel.setText(orderInfo);
```

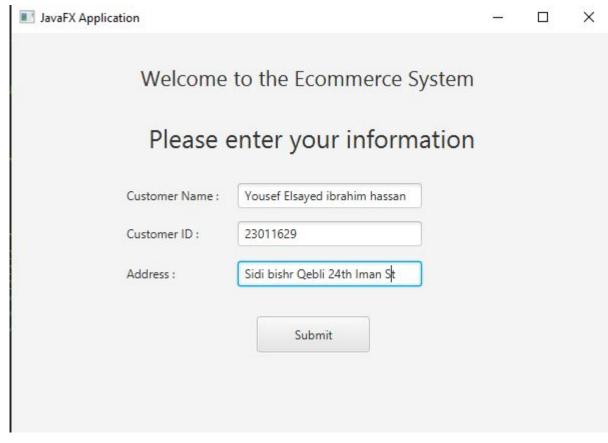
Controller6 pt1

```
package application;
 30 import javafx.event.ActionEvent;
       private Cart cart;
180
       public void setCart(Cart cart) {
           this.cart = cart;
220
       private ListView<String> productList;
250
        @FXML
       private Button confirmButton;
289
        @FXML
       private Button emptyCartButton;
310
       @FXML
       public void initialize() {
           for (Product product : cart.getproducts()) {
               productList.getItems().add(product.getname());
380
        @FXML
       private void handleConfirmButton(ActionEvent event) {
            int selectedIndex = productList.getSelectionModel().getSelectedIndex();
           if (selectedIndex >= 0 && selectedIndex < cart.getproducts().length) {
               cart.removeProduct(cart.getproducts(), selectedIndex);
           cart.placeOrder();
480
       private void handleEmptyCartButton(ActionEvent event) {
```

Controller6 pt2

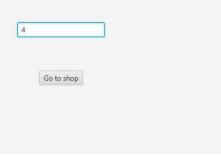
```
530
       @FXML
       private void switchToScene5() {
               FXMLLoader loader = new FXMLLoader(getClass().getResource("Scene5.fxml"));
               Parent root = loader.load();
               Controller5 = loader.getController();
               if (controller5 != null) {
                   controller5.setOrderInfo(cart.orderInfo);
               } else {
                   System.err.println("Error: Controller5 is null.");
               Stage stage = (Stage) confirmButton.getScene().getWindow();
               Scene scene = new Scene(root);
               stage.setScene(scene);
               stage.show();
           } catch (IOException e) {
               e.printStackTrace();
750
       private void switchToScene7() {
               FXMLLoader loader = new FXMLLoader(getClass().getResource("Scene7.fxml"));
               Parent root = loader.load();
               Stage stage = (Stage) emptyCartButton.getScene().getWindow();
               Scene scene = new Scene(root);
               stage.setScene(scene);
               stage.show();
           } catch (IOException e) {
               e.printStackTrace();
```

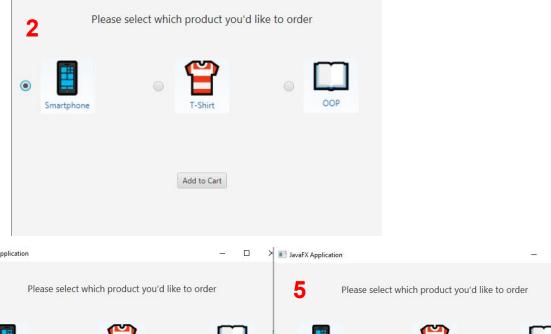
FXML Files After the output Output:

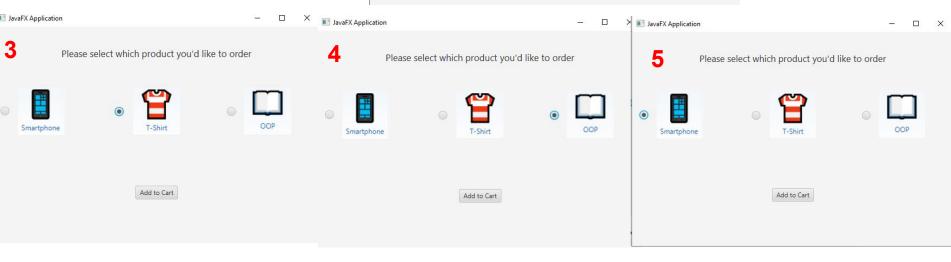


Hello, Yousef Elsayed ibrahim hass...

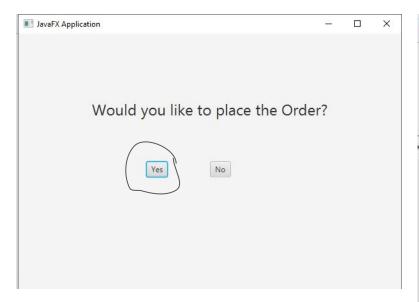
1 How many products would you like to order?

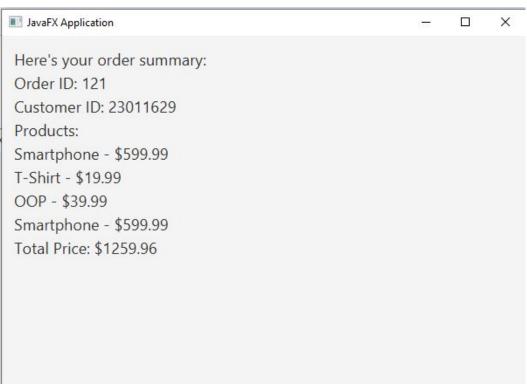




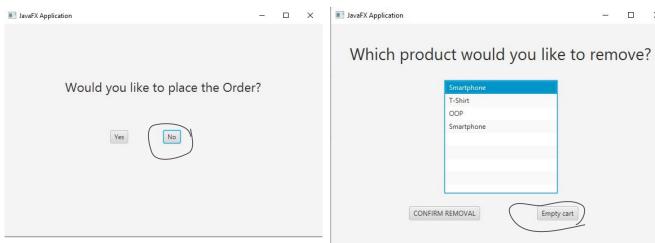


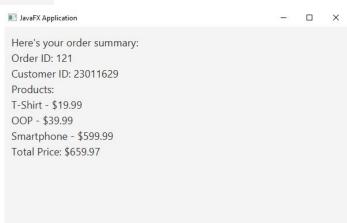
Output end 1 (Yes)





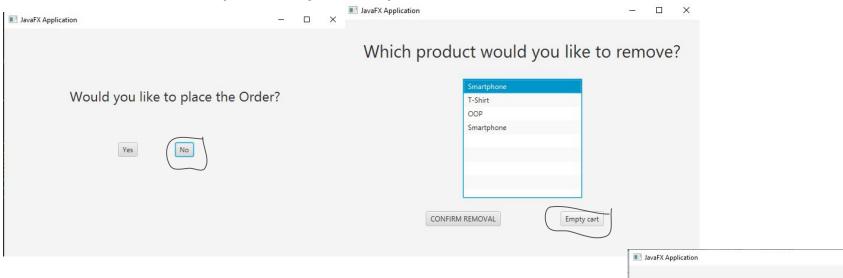
Output end 2(Remove product)





×

Output End 3 (EmptyCart)



The cart has been emptied and the order has been cancelled.

FXML Files scene.fxml

```
scene.fxml X scene2.fxml
                              Scene3.fxml
                                               Scene4.fxml
                                                               Scene5.fxml
                                                                               Scene6.fxml
                                                                                               Scene7.fxml
  1 <?xml version="1.0" encoding="UTF-8"?>
   ?import javafx.scene.control.Button?>
    Pimport javafx.scene.control.Label?
 5 Cimport javafx.scene.control.TextField
  6 ?import javafx.scene.layout.AnchorPane??
 7 <?import javafx.scene.text.Font</pre>
     Bind to arammar/schema...
 99 <anchorPane maxHeight="-Infinity" maxWidth="-Infinity" minHeight="-Infinity" minWidth="-Infinity" prefHeight="400.0" prefWidth="600.0"
     xmlns="http://javafx.com/javafx/8.0.171" xmlns:fx="http://javafx.com/fxml/1" fx:controller="application.Controller">
 110
          <Label layoutX="129.0" layoutY="14.0" prefHeight="62.0" prefWidth="344.0" text="Welcome to the Ecommerce System">
 120
 130
                <Font size="21.0" />
          </Label>
          <Label fx:id="myLabel" layoutX="137.0" layoutY="88.0" text="Please enter your information">
 170
 180
                 <Font size="25.0" />
          <Button fx:id="button" layoutX="245.0" layoutY="283.0" mnemonicParsing="false" onAction="#submit" prefHeight="36.0" prefWidth="113.0" text="5ubmit" />
          <TextField fx:id="TField1" layoutX="226.0" layoutY="150.0" prefHeight="25.0" prefWidth="184.0" promptText="ex: Ahmed Khalil" />
          <TextField fx:id="TField2" layoutX="226.0" layoutY="188.0" prefHeight="25.0" prefWidth="184.0" promptText="ex: 20001292" />
          <TextField fx:id="TField3" layoutX="226.0" layoutY="228.0" prefHeight="25.0" prefWidth="184.0" promptText="ex: Ezbet Saad" />
          <Label layoutX="115.0" layoutY="154.0" text="Customer Name : " />
          <Label layoutX="115.0" layoutY="192.0" text="Customer ID : " />
          <Label layoutX="115.0" layoutY="232.0" text="Address : " />
```

scene2.fxml

```
1 <?xml version="1.0" encoding="UTF-8"?>>
<?import javafx.scene.control.Label?>
  @import javafx.scene.control.TextField?>
 6 @import javafx.scene.layout.AnchorPane
 7 ?import javafx.scene.text.Font?>
   Bind to grammar/schema...
 9€ <anchorPage maxHeight="-Infinity" maxWidth="-Infinity" minHeight="-Infinity" minWidth="-Infinity" prefHeight="400.0" prefWidth="600.0"
    xmlns="http://javafx.com/javafx/8.0.171" xmlns:fx="http://javafx.com/fxml/1" fx:controller="application.Controller2">
110
         <Label fx:id="label" layoutX="62.0" layoutY="104.0" text="How many products would you like to order?">
120
130
               <Font size="24.0" />
         <TextField fx:id="nProductsField" layoutX="217.0" layoutY="175.0" promptText="ex: 4" />
         <Button fx:id="button" layoutX="254.0" layoutY="257.0" mnemonicParsing="false" onAction="#goToShop" text="Go to shop" />
         <Label fx:id="label2" layoutX="14.0" layoutY="26.0" prefHeight="53.0" prefWidth="571.0" text="Label">
190
200
               <Font size="36.0" />
      </children>
```

Scene3.fxml

```
1 <?xml version="1.0" encoding="UTF-8"?
 3 @import javafx.scene.control.Button?
 4 *?import javafx.scene.control.Label?
 5 @import javafx.scene.control.RadioButton?
 6 ?import javafx.scene.control.ToggleGroup?
 7 (?import javafx.scene.image.Image?
 8 <?import javafx.scene.image.ImageView?</pre>
10 <?import javafx.scene.text.Font?>
12@ <achormane maxHeight="-Infinity" maxWidth="-Infinity" minHeight="-Infinity" minWidth="-Infinity" prefHeight="400.0"
150
160
            <Label fx:id="label" layoutX="126.0" layoutY="37.0" text="Please select which product you'd like to order">
170
                   <Font size="17.0" />
210
            <RadioButton fx:id="rButton1" layoutX="14.0" layoutY="146.0" mnemonicParsing="false" onAction="#handleRadioButtonAction">
220
                   <ToggleGroup fx:id="productToggleGroup" />
            <RadioButton fx:id="rButton2" layoutX="224.0" layoutY="147.0" mnemonicParsing="false"
               onAction="#handleRadioButtonAction" toggleGroup="$productToggleGroup" />
           <RadioButton fx:id="rButton3" layoutX="430.0" layoutY="147.0" mnemonicParsing="false"
               onAction="#handleRadioButtonAction" toggleGroup="$productToggleGroup" />
300
            <ImageView fx:id="smartphone" fitHeight="106.0" fitWidth="87.0" layoutX="46.0" layoutY="111.0"</pre>
               pickOnBounds="true" preserveRatio="true">
320
                   <Image url="@Smartphone.png" />
360
           <ImageView fx:id="tshirt" fitHeight="106.0" fitWidth="87.0" layoutX="257.0" layoutY="111.0"</pre>
               pickOnBounds="true" preserveRatio="true">
380
                    <Image url="@tshirt.png" />
420
            <ImageView fx:id="oop" fitHeight="106.0" fitWidth="87.0" layoutX="461.0" layoutY="111.0" pickOnBounds="true"</pre>
               preserveRatio="true">
446
                    <Image url="@OOP.png" />
            <Button fx:id="add" layoutX="262.0" layoutY="292.0" mnemonicParsing="false" text="Add to Cart"</pre>
               onAction="#addToCart" />
```

Scene4.fxml

```
<?xml version="1.0" encoding="UTF-8"?>
 3 <?import javafx.scene.control.Button?>
 4 (?import javafx.scene.control.Label?)
 5 @import javafx.scene.layout.AnchorPane?>
 6 <?import javafx.scene.text.Font?>
   Bind to grammar/schema...
8● <anchorPane maxHeight="-Infinity" maxWidth="-Infinity" minHeight="-Infinity" minWidth="-Infinity" prefHeight="400.0" prefWidth="600.0"
    xmlns="http://javafx.com/javafx/8.0.171" xmlns:fx="http://javafx.com/fxml/1" fx:controller="application.Controller4">
       <children>
100
           <Label fx:id="label" layoutX="115.0" layoutY="102.0" text="Would you like to place the Order?">
110
120
               <Font size="24.0" />
           <Button fx:id="yesButton" layoutX="200.0" layoutY="200.0" mnemonicParsing="false" onAction="#handleYesButton" text="Yes" />
            <Button fx:id="noButton" layoutX="300.0" layoutY="200.0" mnemonicParsing="false" onAction="#handleNoButton" text="No" />
       </children>
    </AnchorPane>
```

Scene5.fxml

```
1 <?xml version="1.0" encoding="UTF-8"?>
 3 (?import javafx.scene.control.Label)>>
   <?import javafx.scene.layout.AnchorPane>>
   @import javafx.scene.text.Font?>
   Bind to grammar/schema...
8● <anchorPane maxHeight="-Infinity" maxWidth="-Infinity" minHeight="-Infinity" minWidth="-Infinity" prefHeight="400.0" prefWidth="600.0"
    xmlns="http://javafx.com/javafx/8.0.171" xmlns:fx="http://javafx.com/fxml/1" fx:controller="application.Controller5">
110
         <Label fx:id="orderLabel" layoutX="14.0" layoutY="14.0" text="Label">
120
               <Font size="18.0" />
      </children>
   </AnchorPane>
```

Scene6.fxml

```
1 <?xml version="1.0" encoding="UTF-8"?>
5 @import javafx.scene.control.ListView?>
6 ?import javafx.scene.layout.AnchorPane?>
7 (?import javafx.scene.text.Font?)
9€ <acchergage maxHeight="-Infinity" maxWidth="-Infinity" minHeight="-Infinity" minWidth="-Infinity" prefHeight="400.0" prefWidth="600.0"
   xmlns="http://javafx.com/javafx/8.0.171" xmlns:fx="http://javafx.com/fxml/1">
110
         <Label fx:id="label" layoutX="33.0" layoutY="32.0" text="Which product would you like to remove?">
120
130
              <Font size="29.0" />
        <ListView fx:id="productList" layoutX="201.0" layoutY="100.0" prefHeight="200.0" prefWidth="200.0" />
        <Button fx:id="confirmButton" layoutX="138.0" layoutY="323.0" mnemonicParsing="false" onAction="#handleConfirmButton" text="CONFIRM REMOVAL" />
        <Button fx:id="emptyCartButton" layoutX="365.0" layoutY="323.0" mnemonicParsing="false" onAction="#handleEmptyCartButton" text="Empty cart" />
      </children>
```

Scene7.fxml

```
<?xml version="1.0" encoding="UTF-8"?>
   c?import javafx.scene.control.Label?>
   <?import javafx.scene.layout.AnchorPane?>>
   ?import javafx.scene.text.Font?>
   Bind to grammar/schema...
89 < AnchorPane maxHeight="-Infinity" maxWidth="-Infinity" minHeight="-Infinity" minWidth="-Infinity" prefHeight="400.0"
   prefWidth="600.0" xmlns="http://javafx.com/javafx/8.0.171" xmlns:fx="http://javafx.com/fxml/1">
100
      <children>
         <Label layoutX="4.0" layoutY="168.0" text="The cart has been emptied and the order has been cancelled.">
110
120
            <font>
               <Font size="22.0" />
      </children>
   </AnchorPane>
```