BÁO CÁO THỰC HÀNH LAB 5

LẬP TRÌNH HƯỚNG ĐỐI TƯỢNG

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1. Swing components
   1. AWTAccumulator

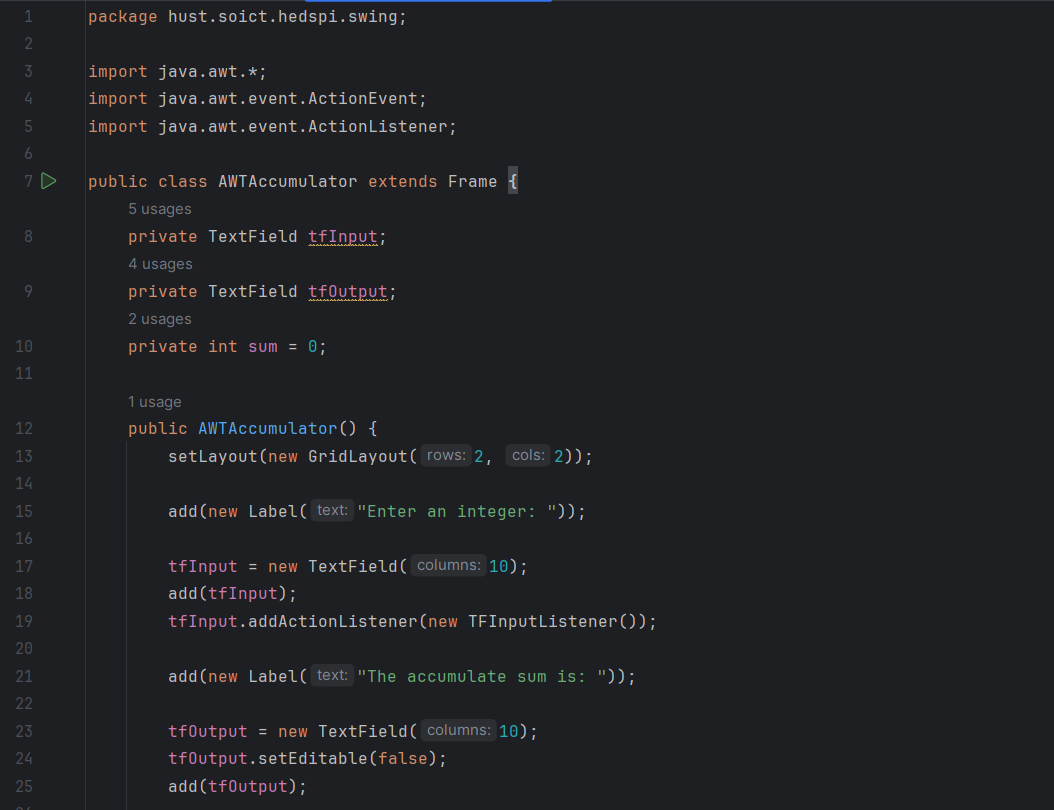


Figure AWTAccumulator

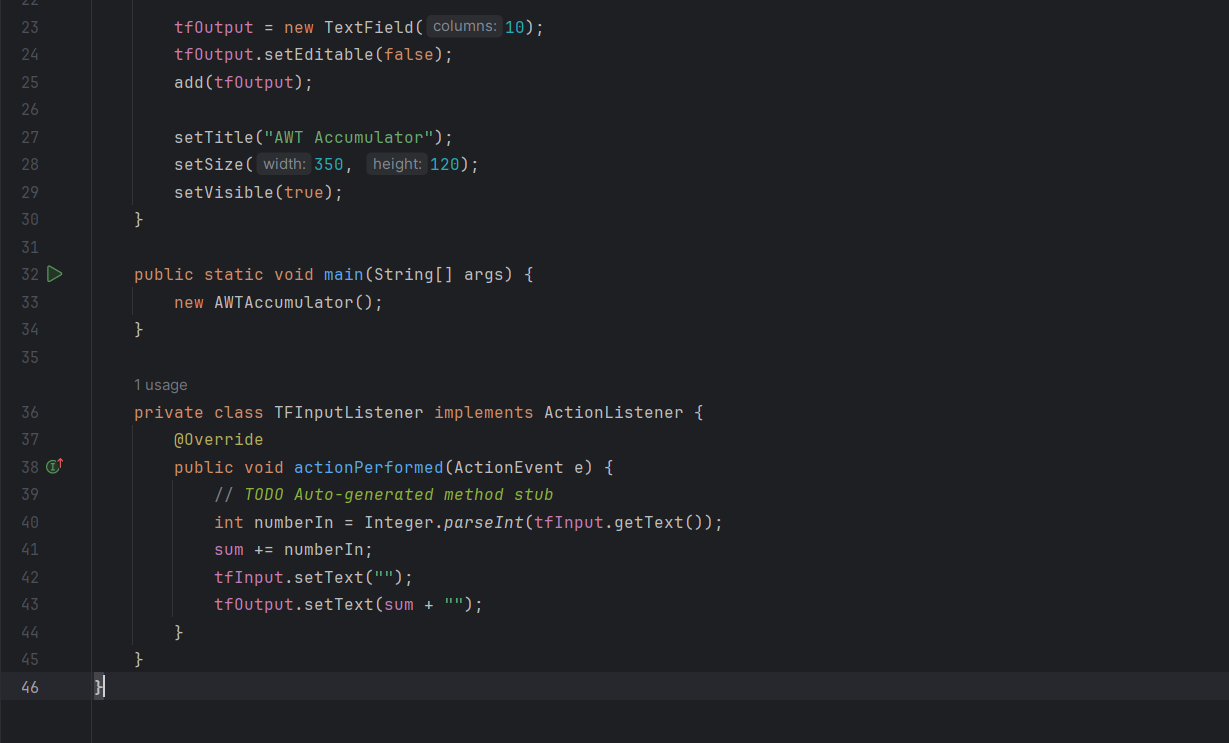


Figure AWTAccumulator

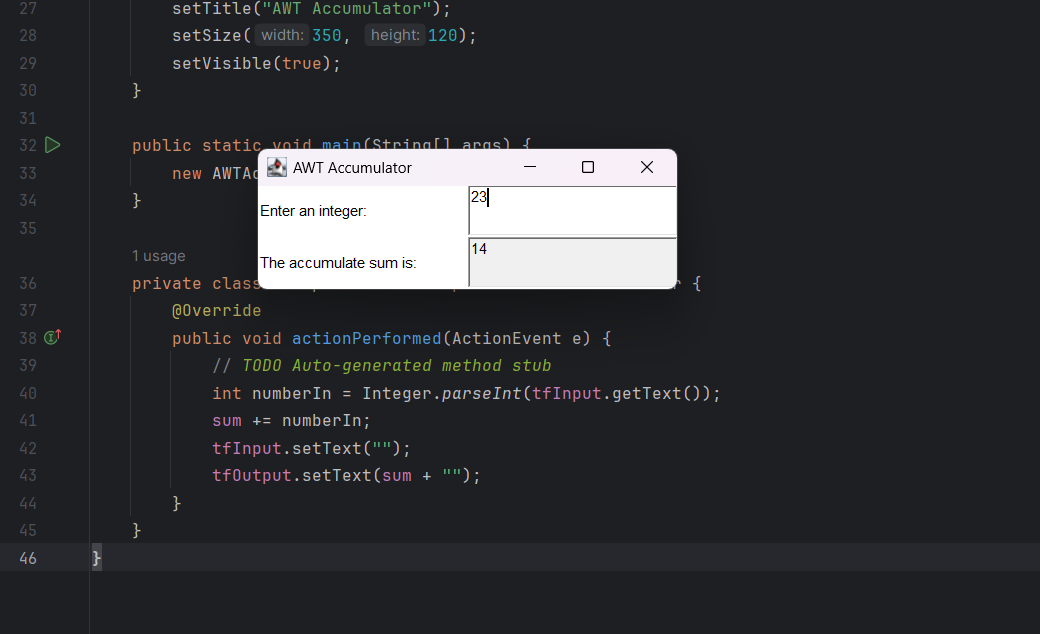


Figure Result

* 1. SwingAccumulator



Figure Swing Accumulator

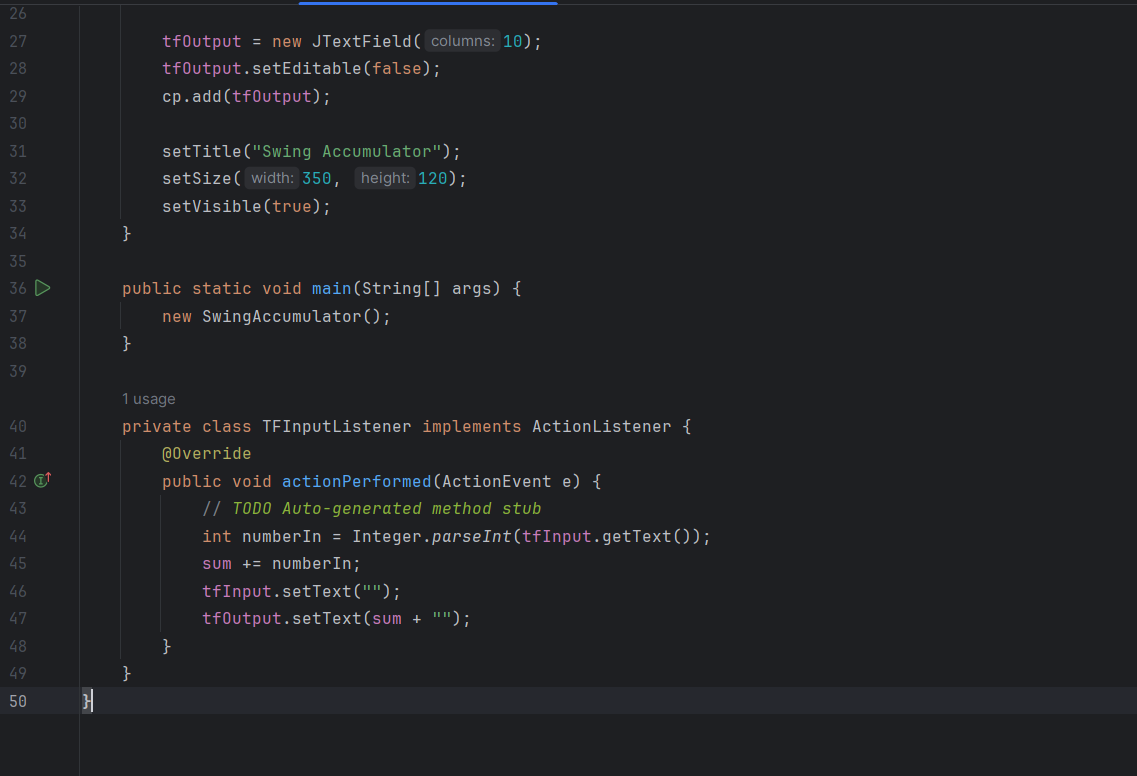


Figure Swing Accumulator

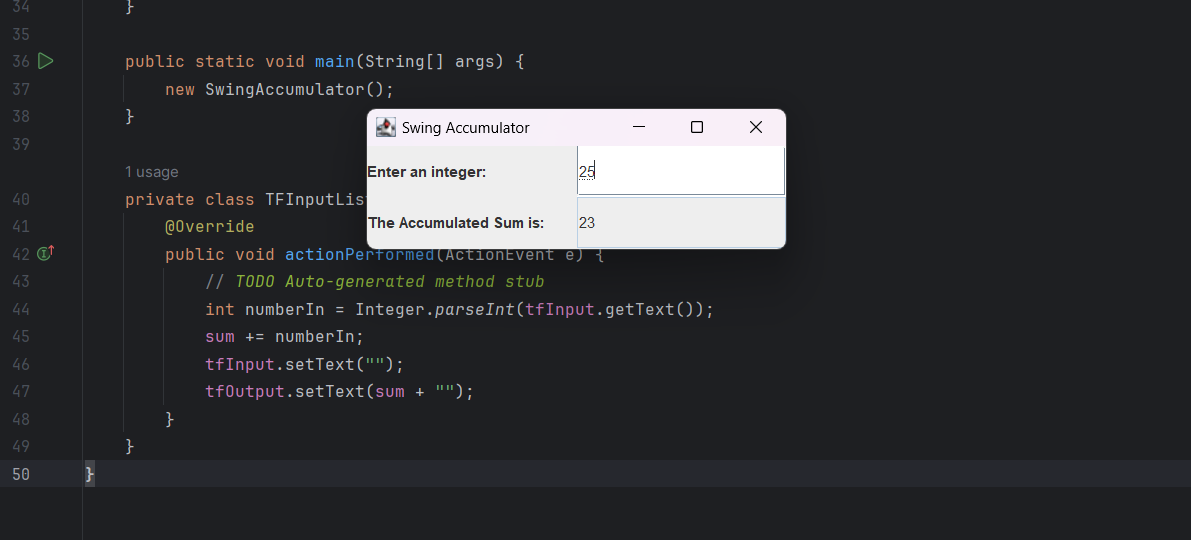


Figure Result

1. Organizing Swing components with Layout Managers

3.1. Class NumberGrid

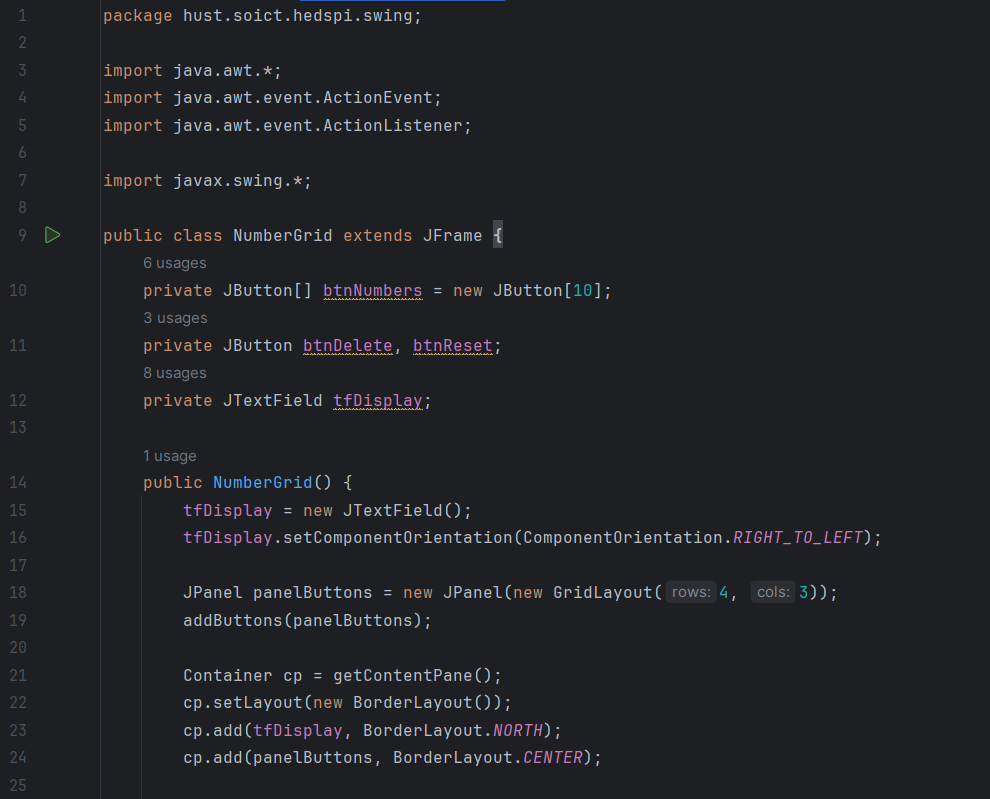
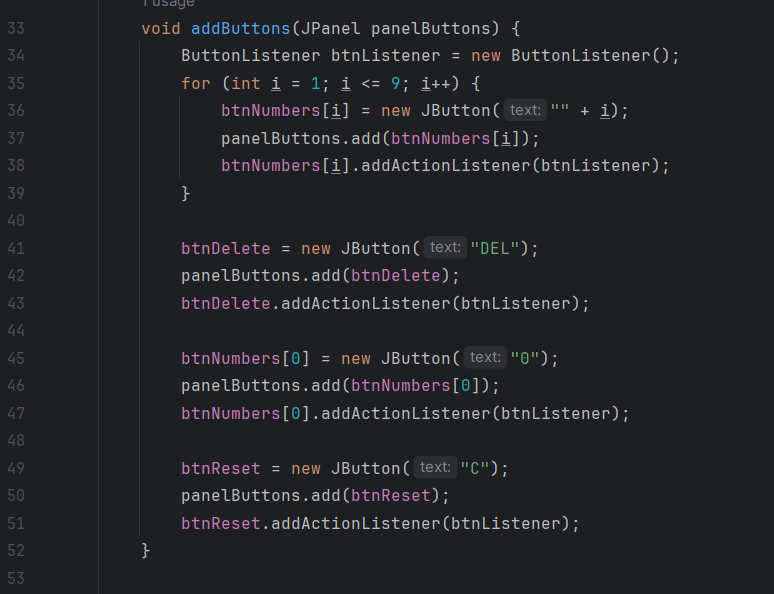


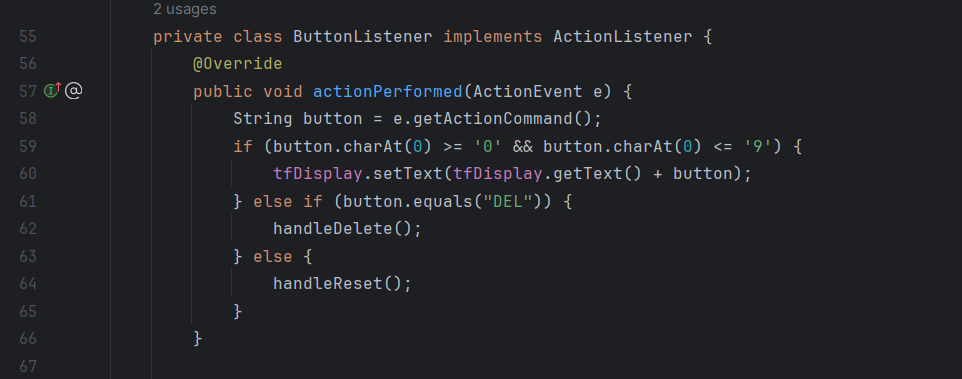
Figure class NumberGrid

3.2. Add buttons

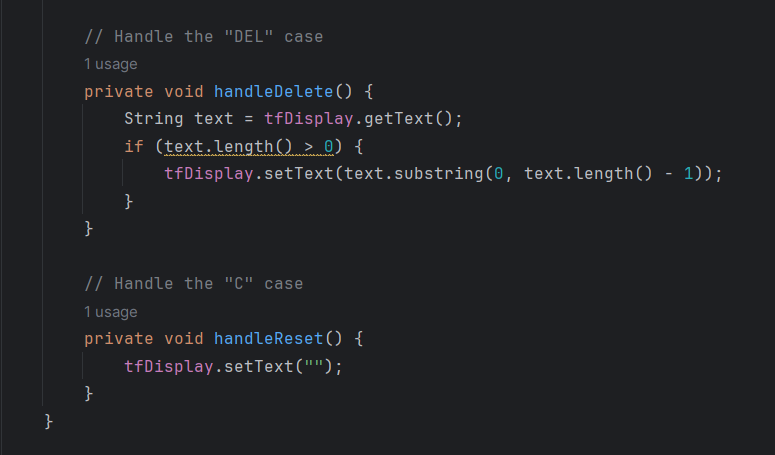


Figure

3.3. ButtonListener



Figure



Figure

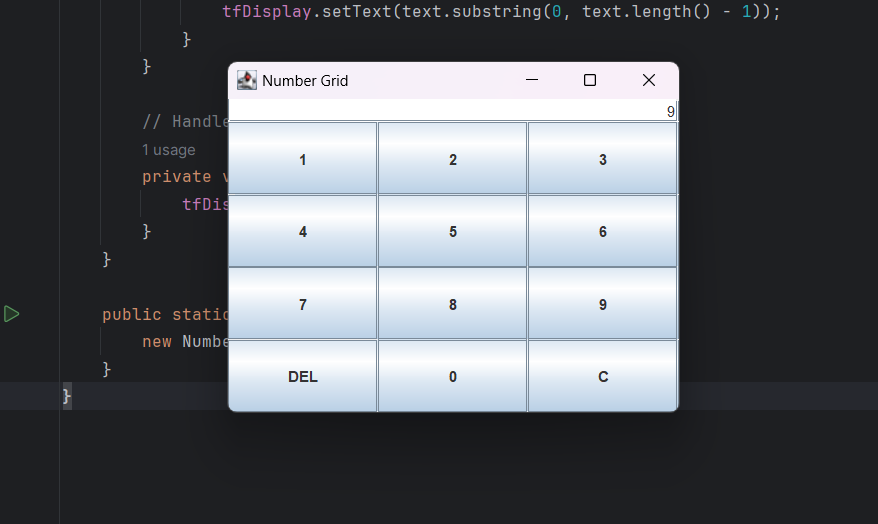


Figure Result

1. Create a graphical user interface using Swing
   1. Create the StoreScreen class:



Figure 12: Store screen class

* 1. MediaStore class:



Figure 13: MediaStore class

* 1. Result

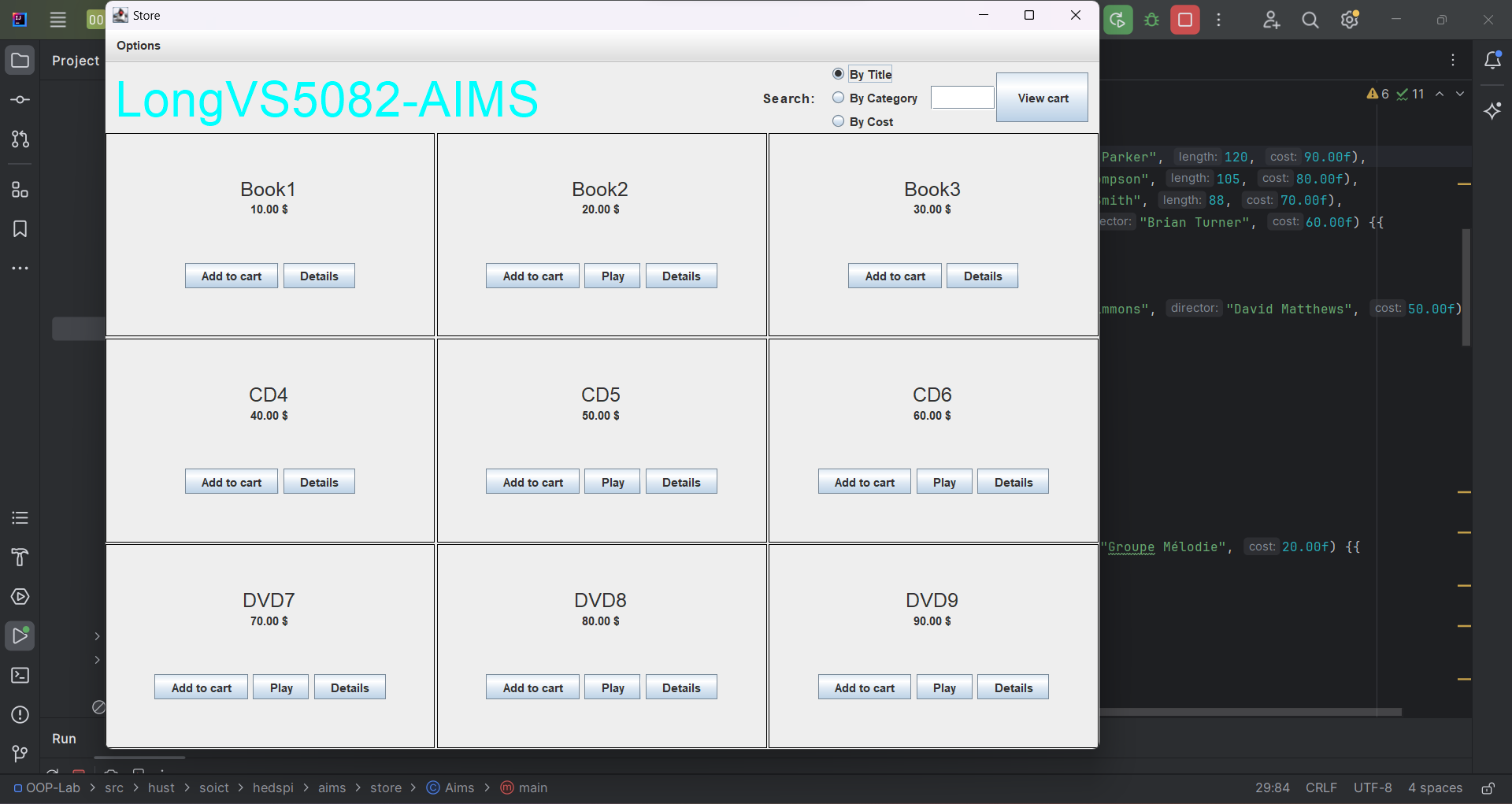
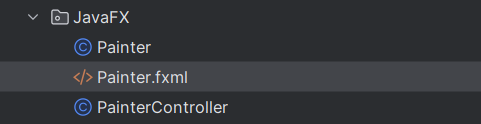


Figure 14 Result

1. JavaFX API



* 1. Create and open FXML file:

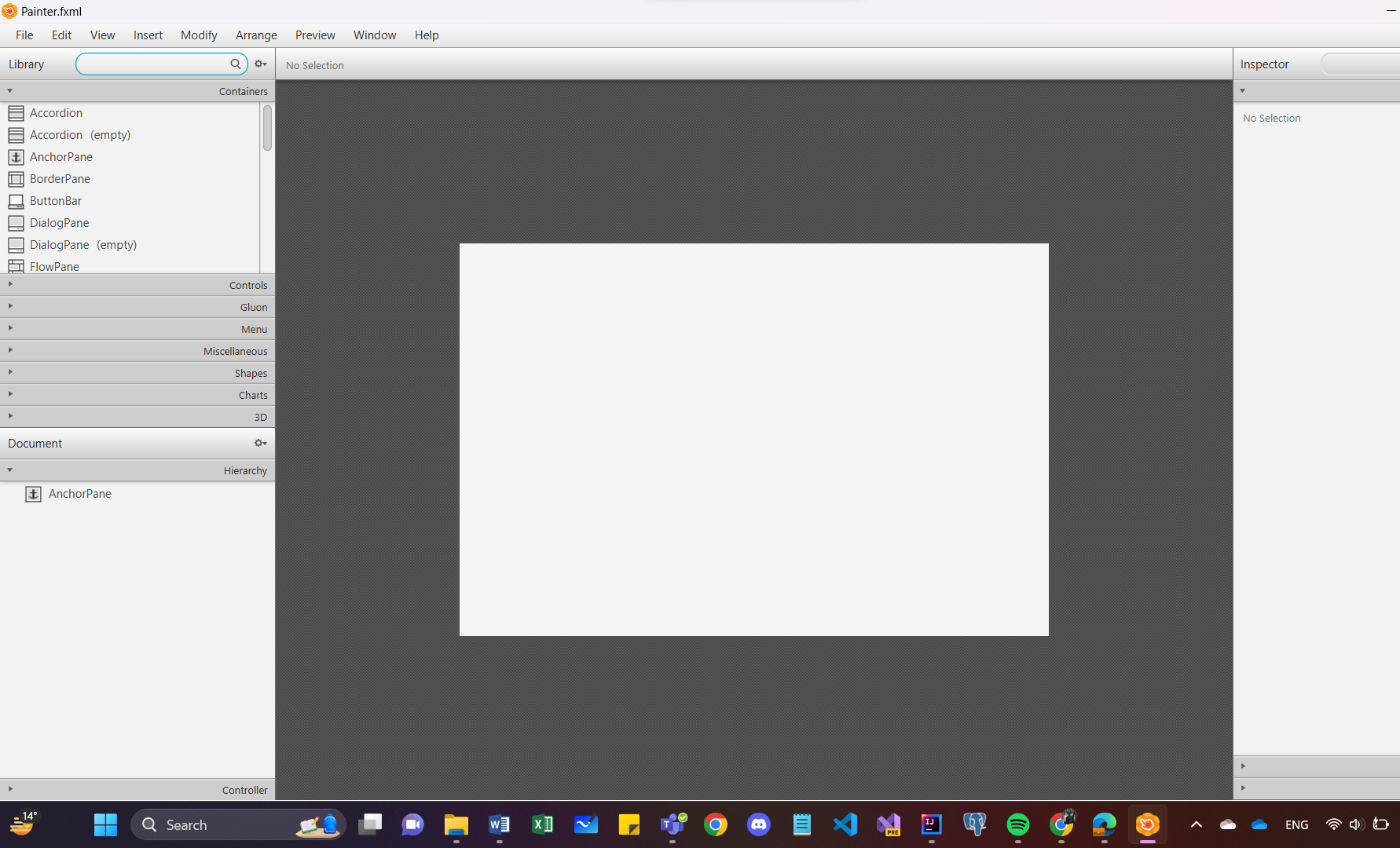


Figure 15 Open with SceneBuilder

* 1. Building the GUI

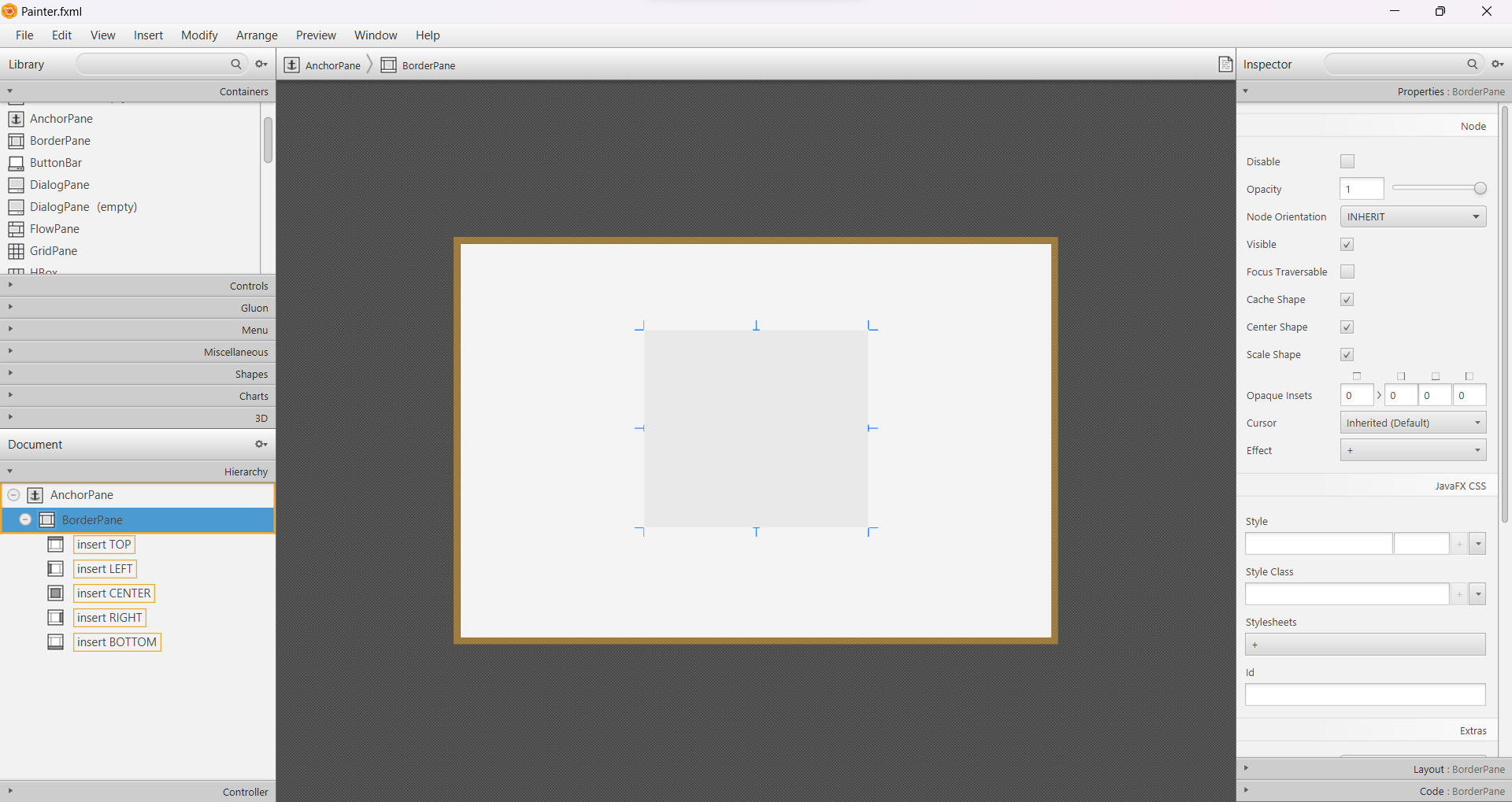


Figure 16 BorderPane

* 1. Create the Controller class

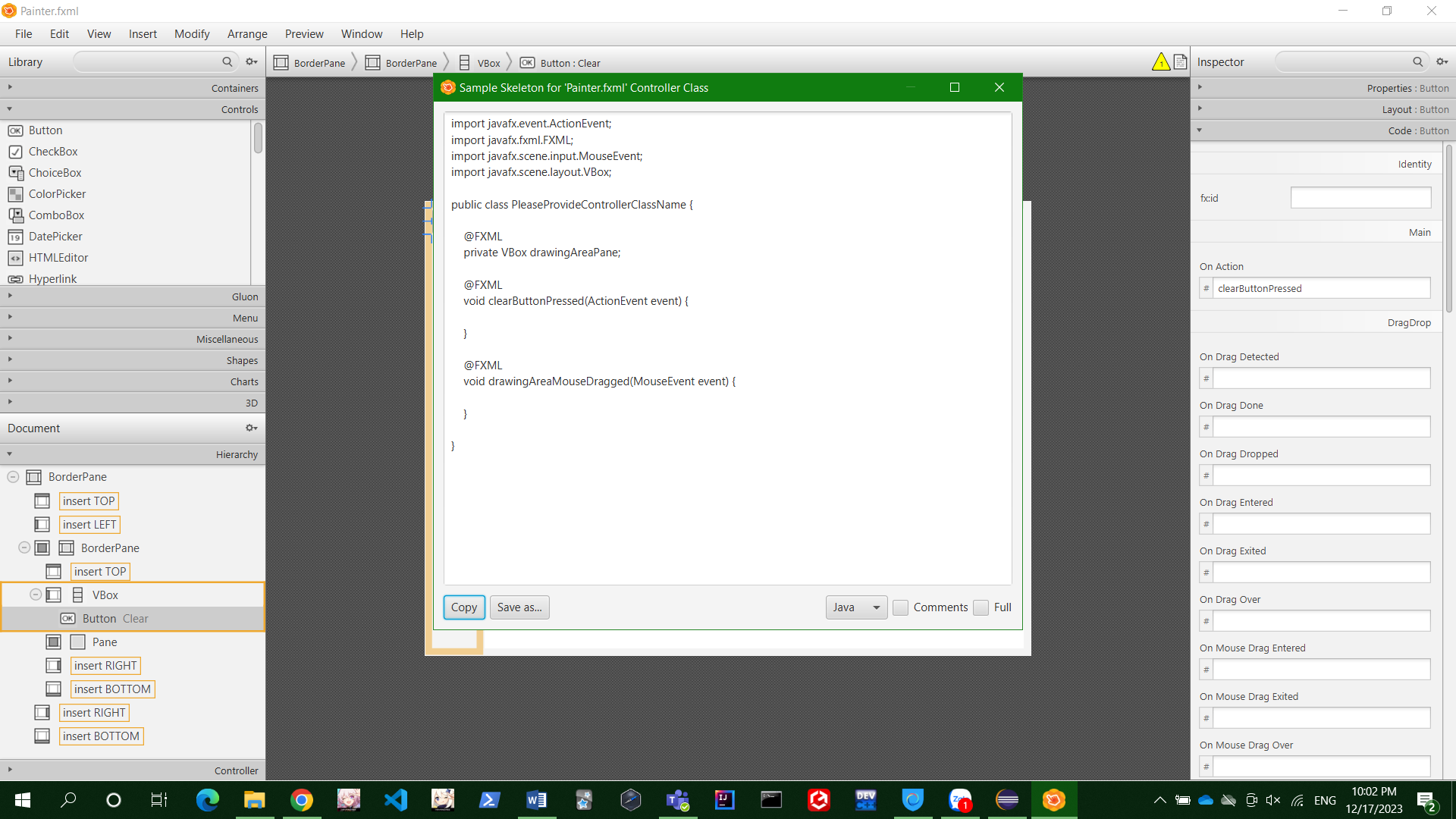


Figure 17

* 1. Practice exercises



Figure 18 Add erase button

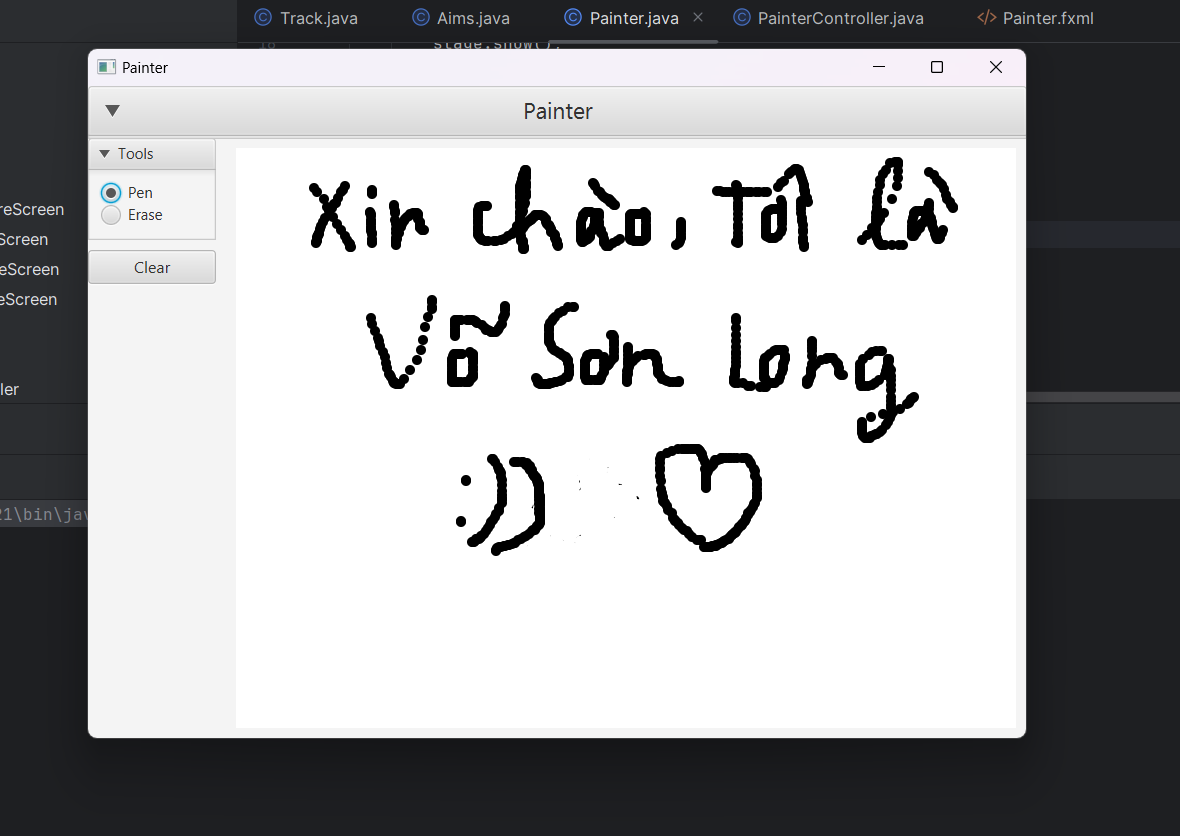


Figure 19 Result-drawing

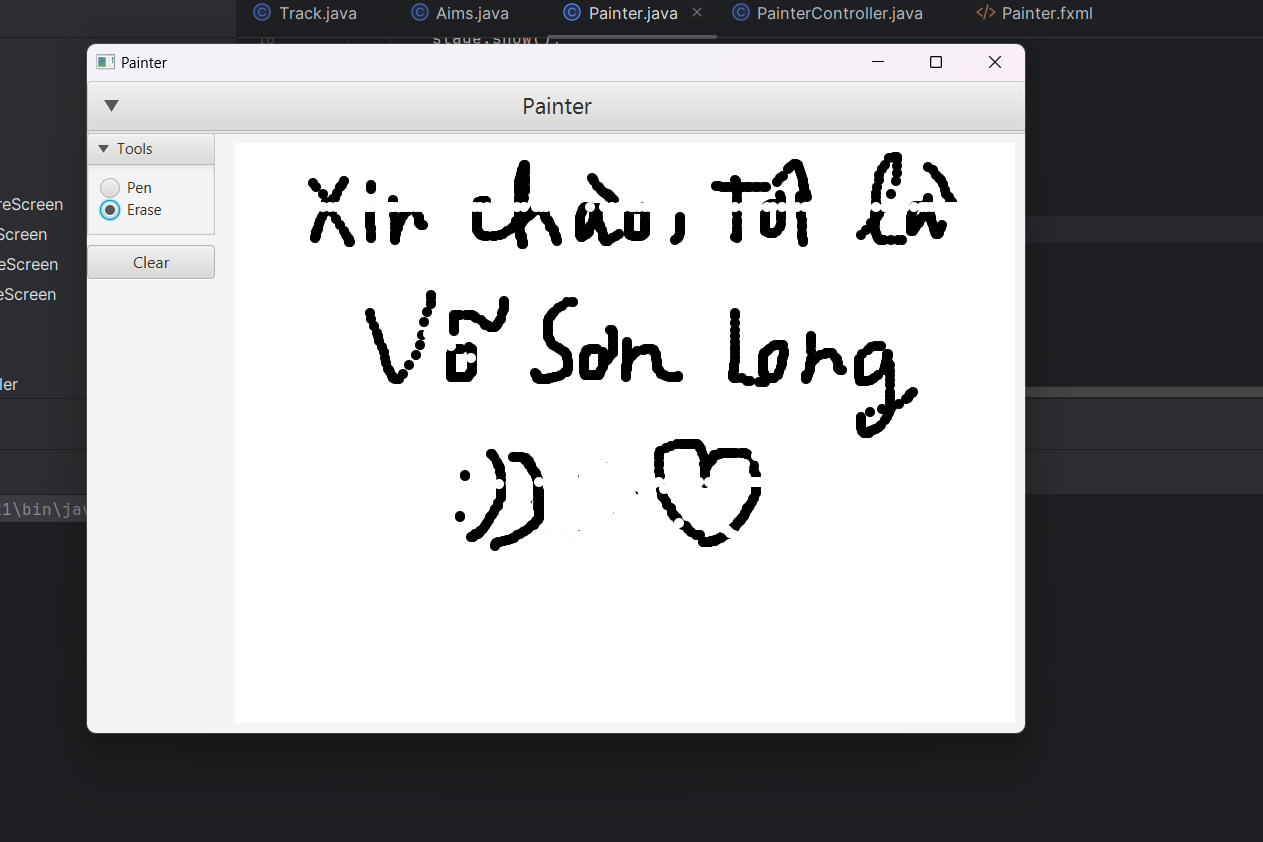


Figure 20 Result-erasing

1. Setting up the View Cart Screen with ScreenBuilder

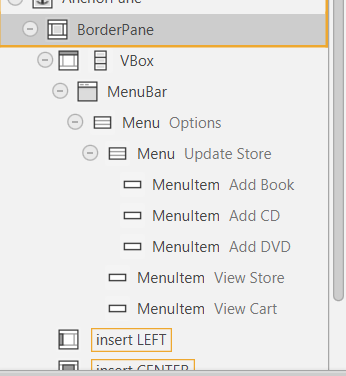


Figure 21

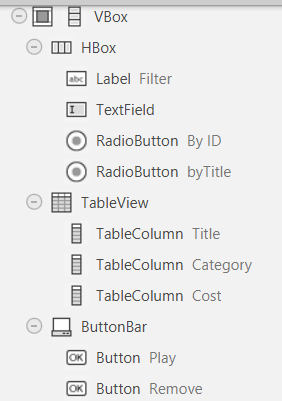


Figure 22

1. Integrating JavaFX into Swing application

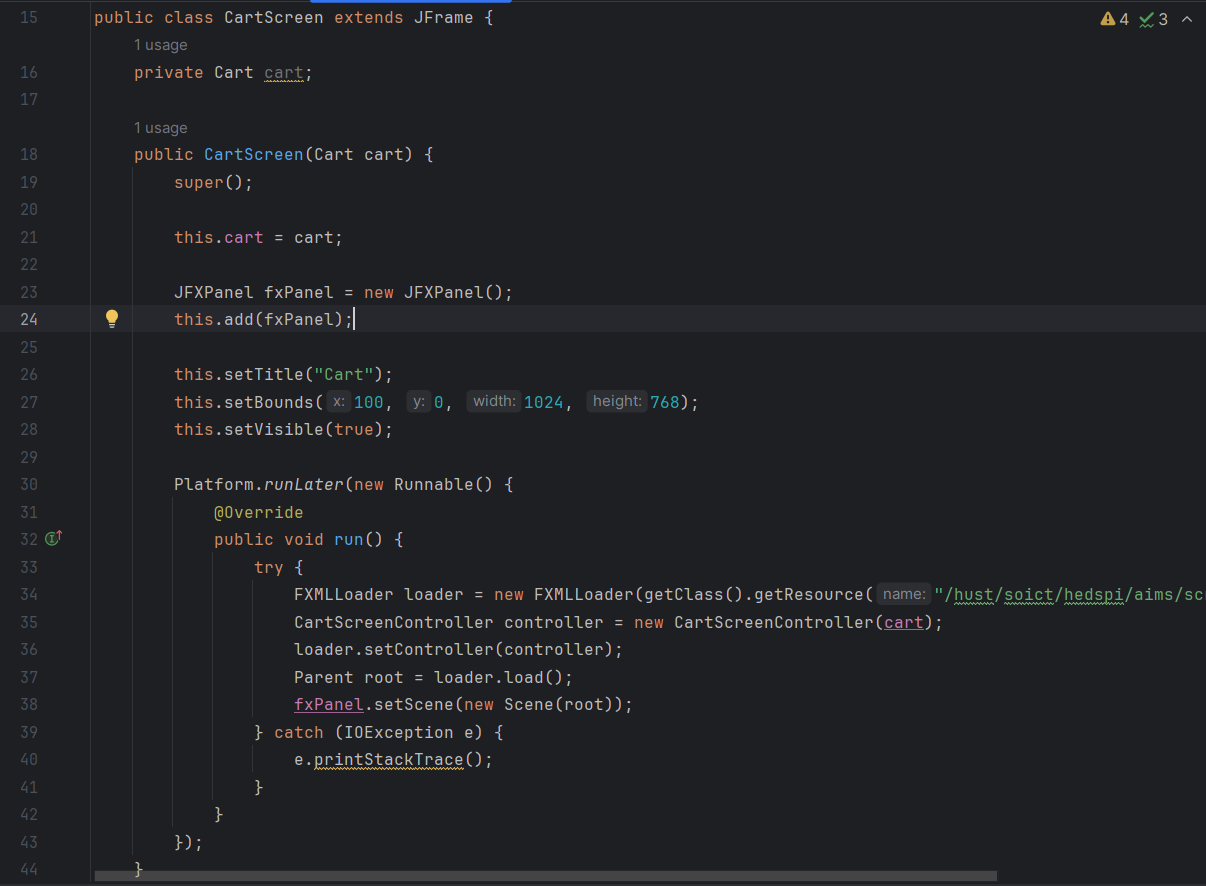


Figure 24

1. View the items in cart

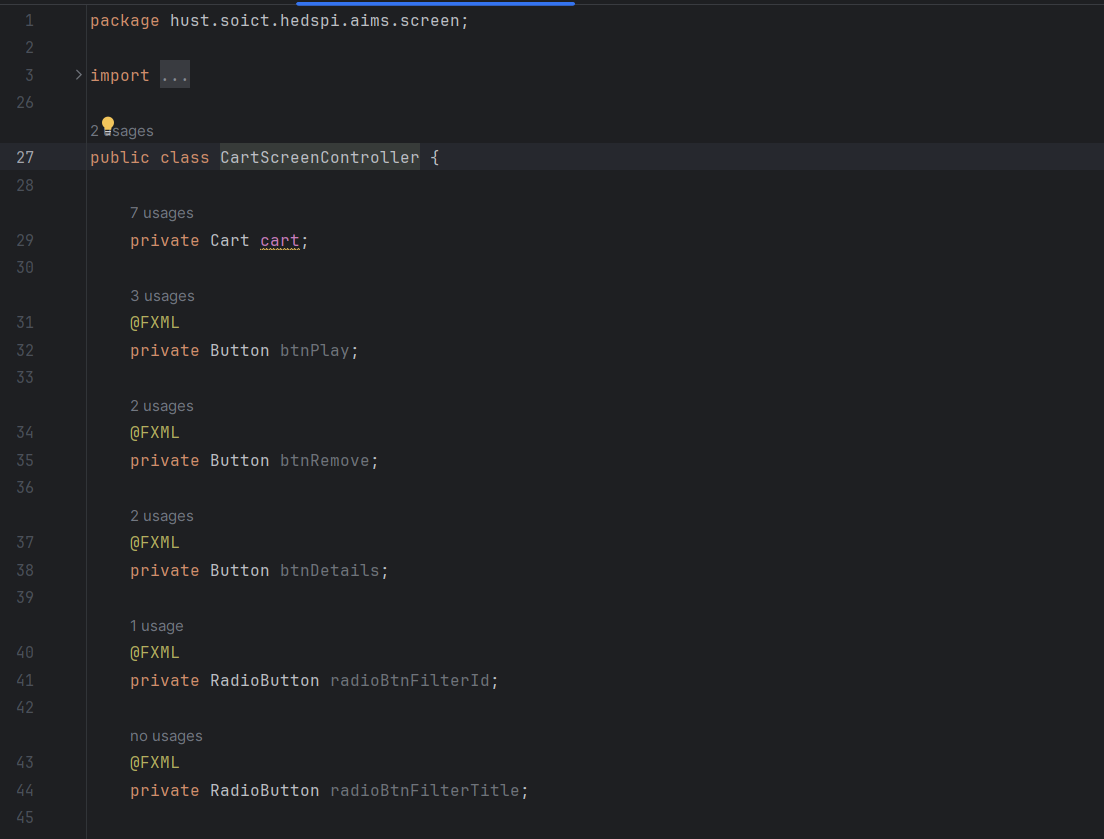


Figure 25 CartScreenController

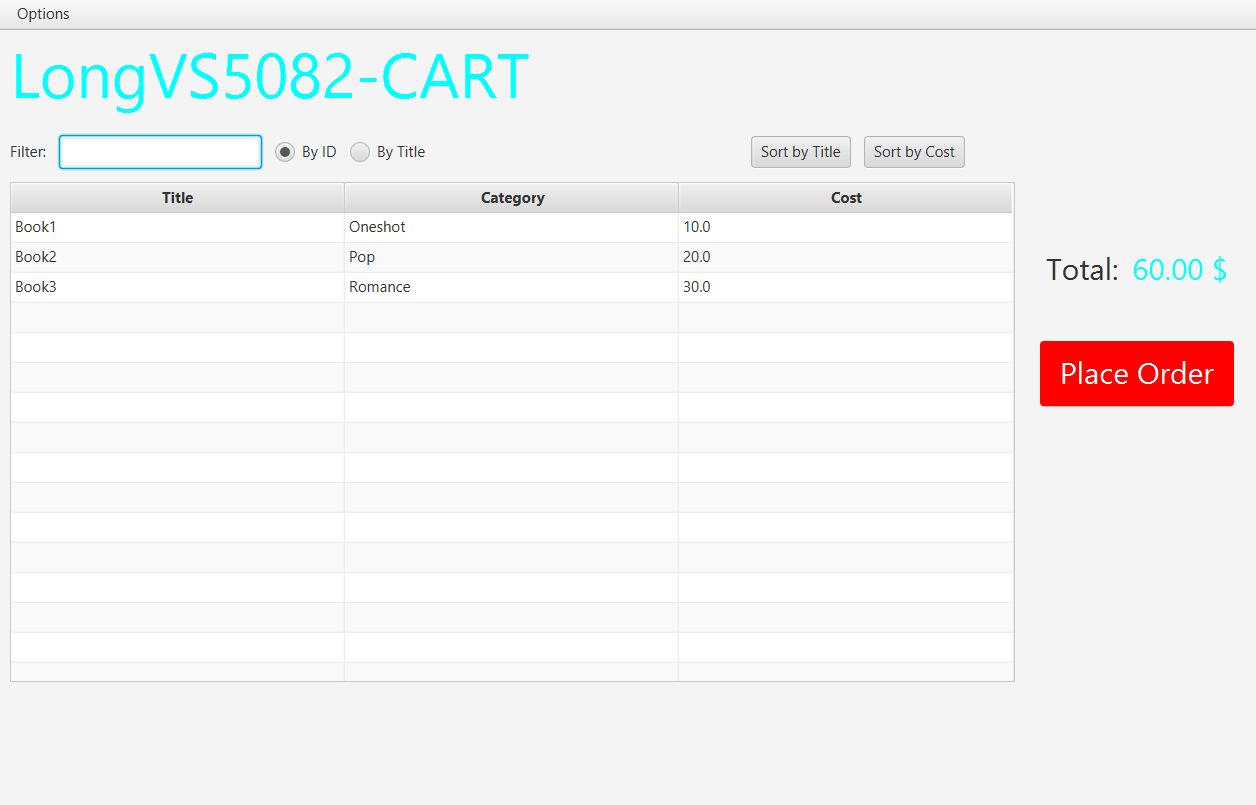


Figure 26

1. Updating buttons based on selected item in TableView – ChangeListener

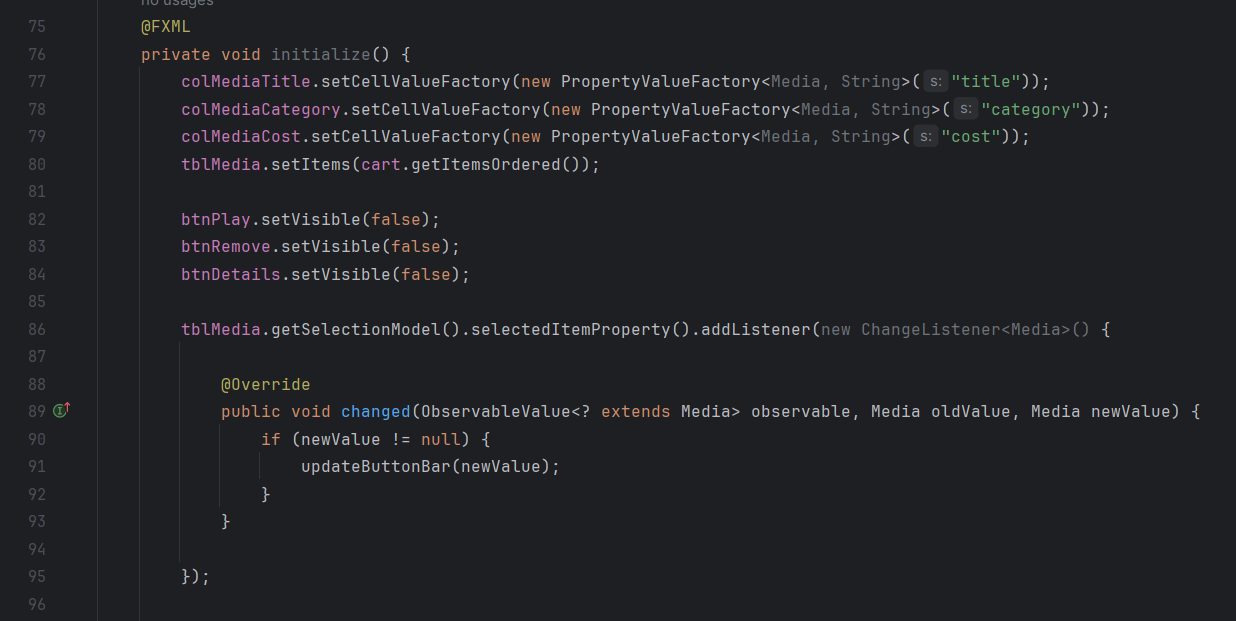


Figure 27 Update initialize()

1. Complete the AIMS JavaFX application
   1. Store Screen



Figure 28

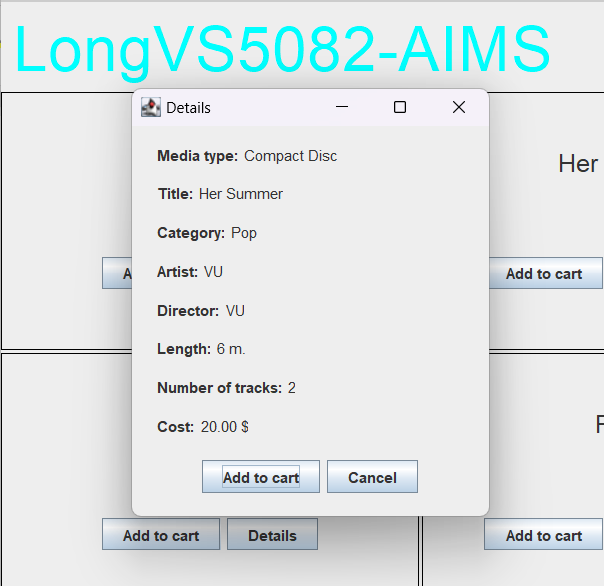


Figure 29 Details

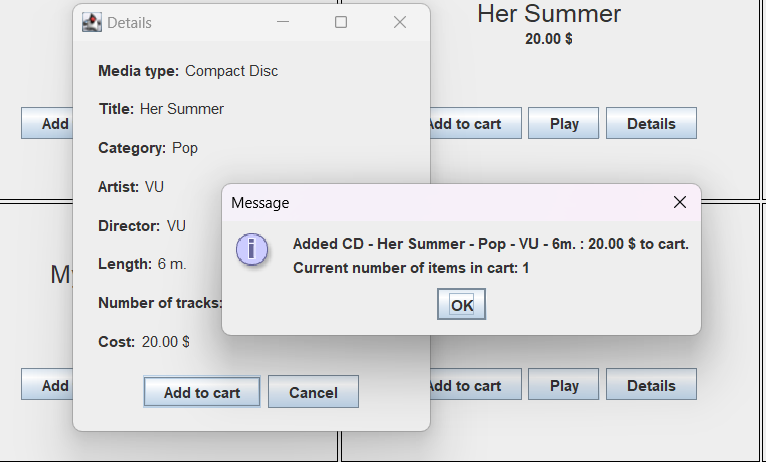


Figure 30 Add media to cart

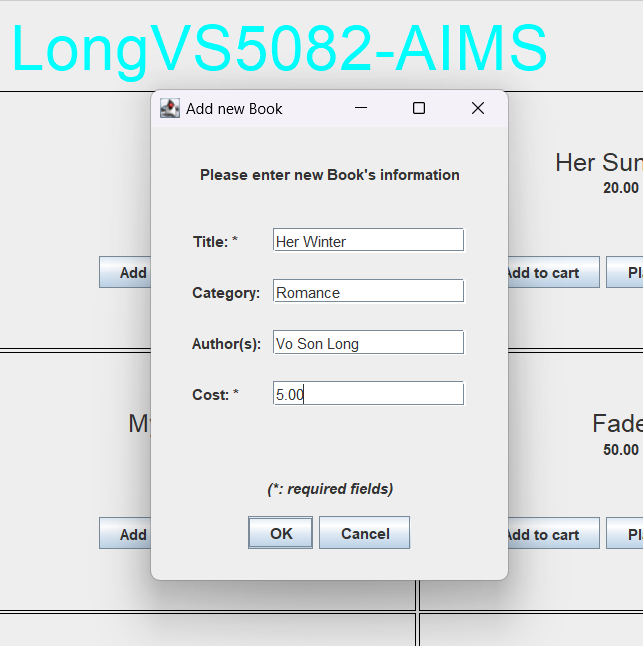


Figure 31 Add new book to store



Figure 32 Result



Figure 33 Search by title

* 1. Cart Screen

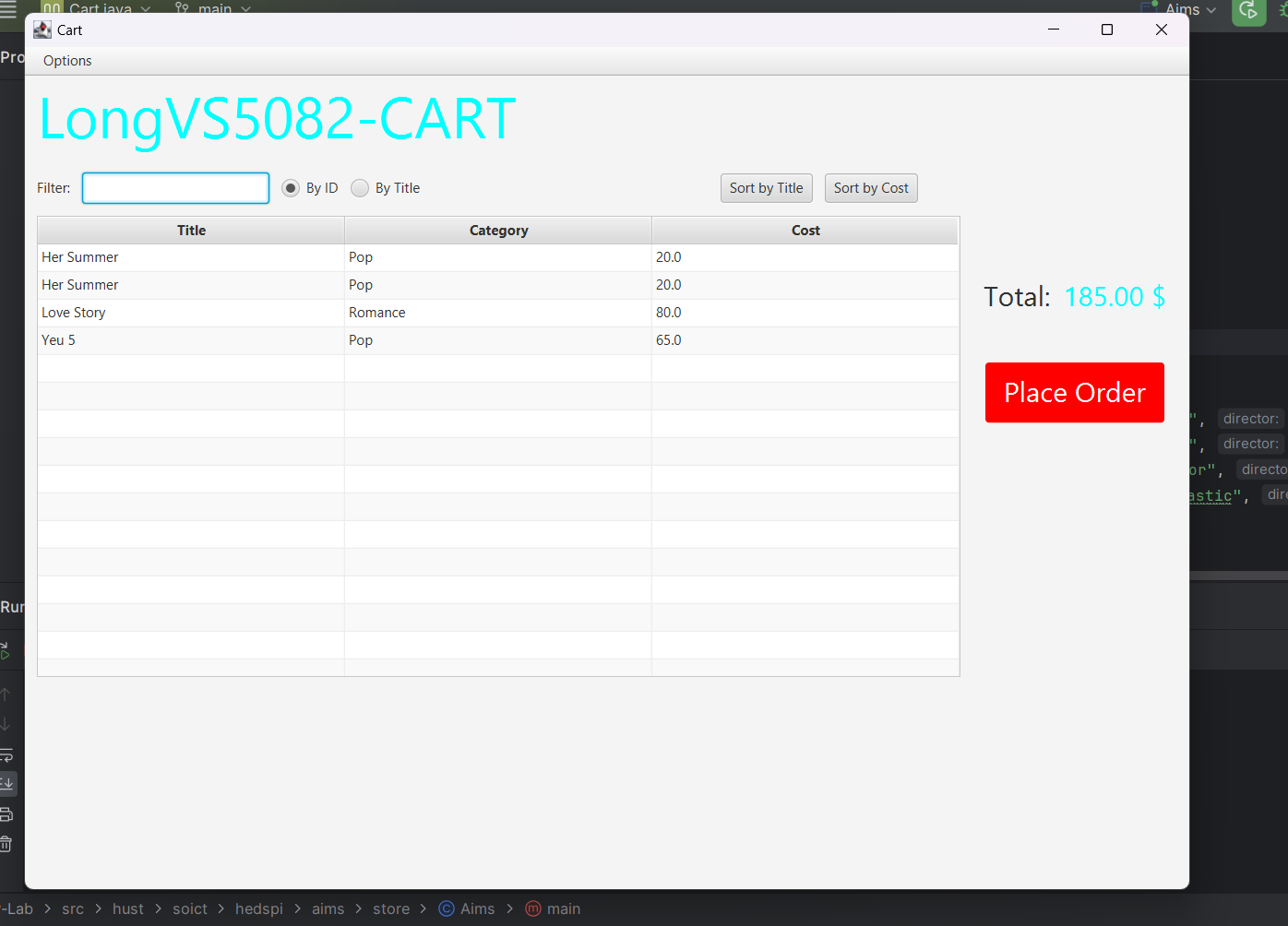


Figure 34 Cart

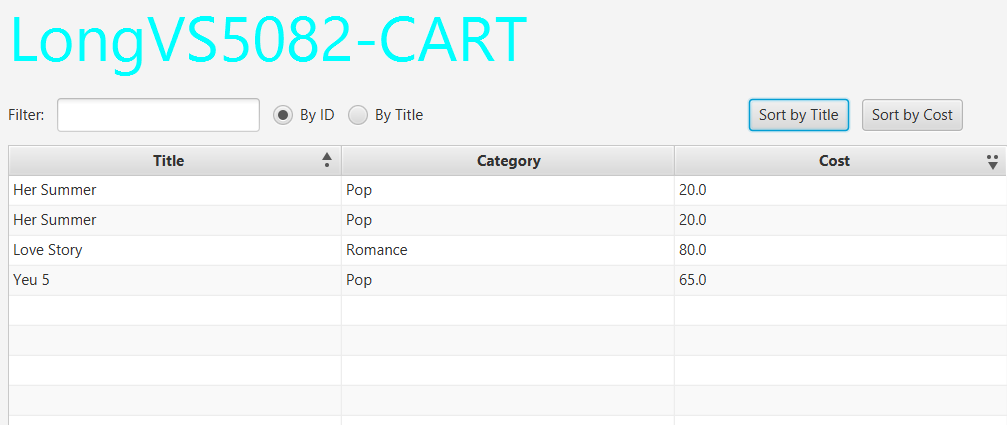


Figure 35 Sort by title

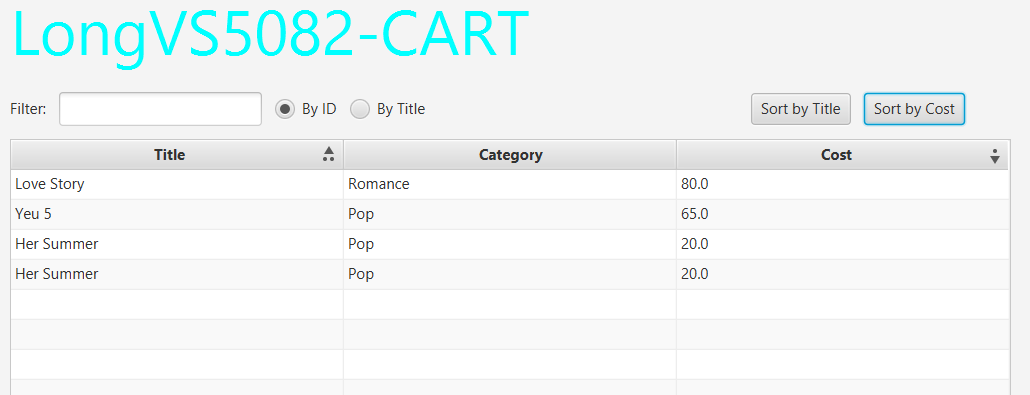


Figure 36 Sort by cost

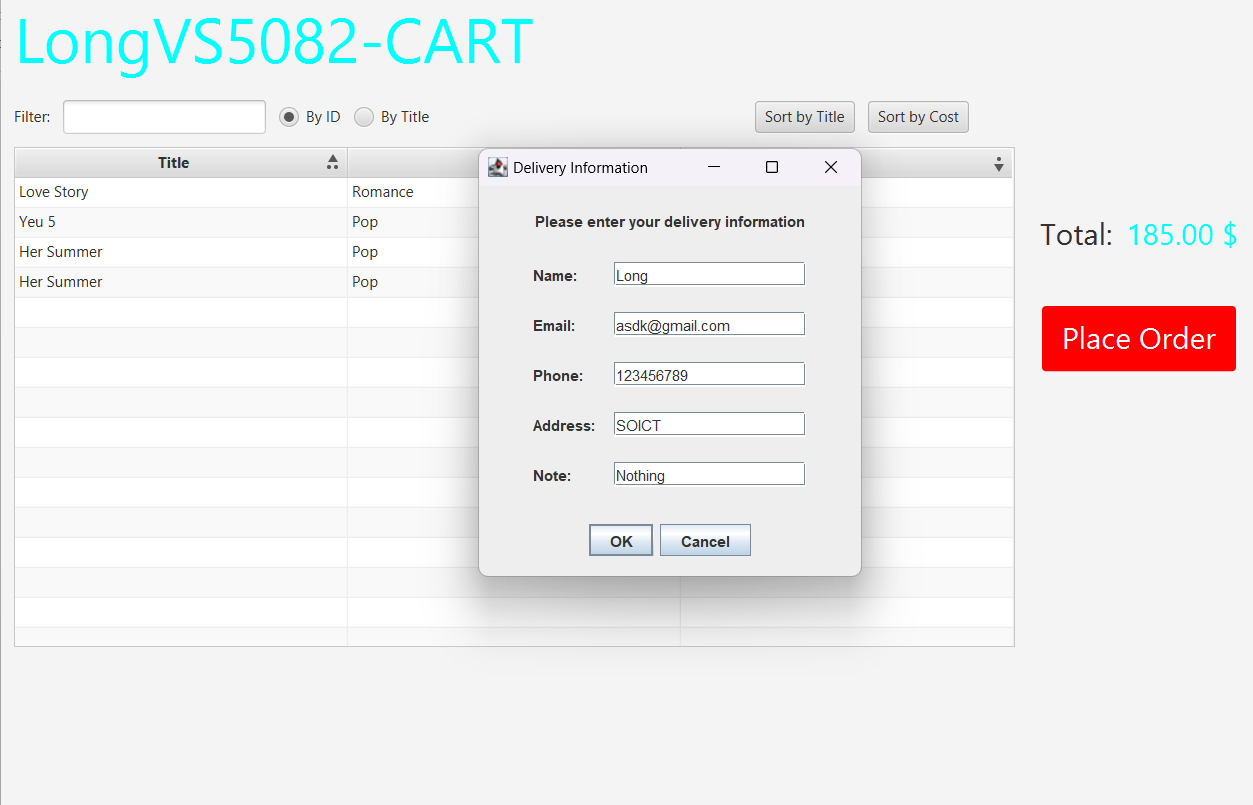


Figure 37 Place order

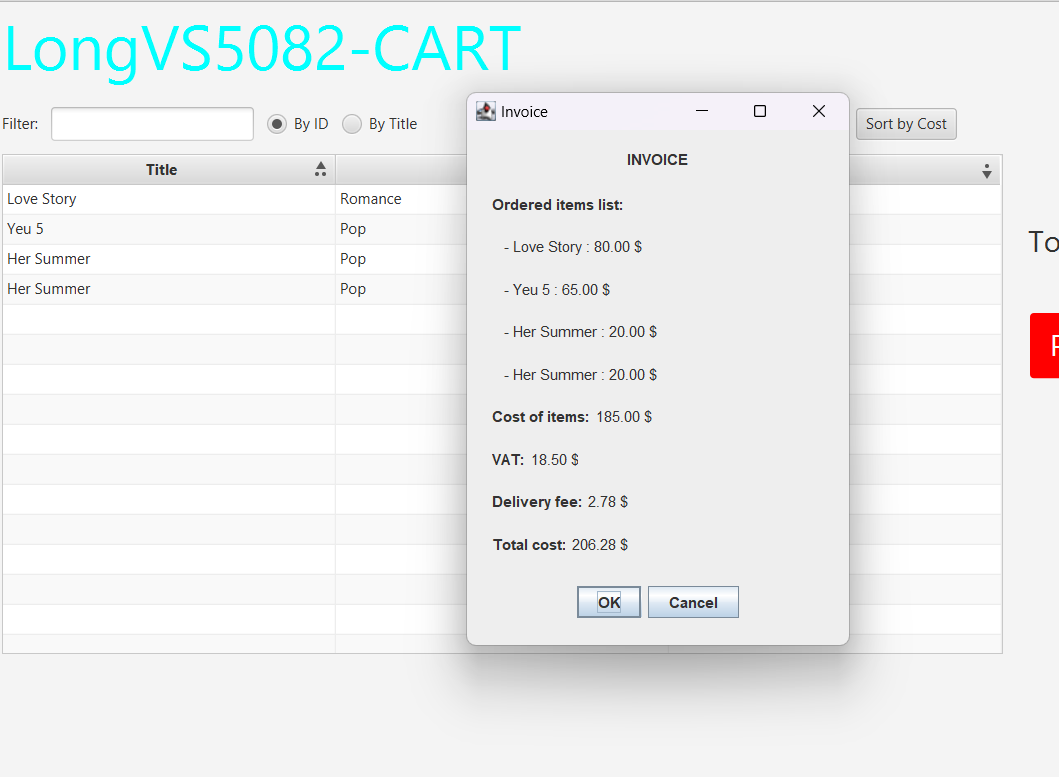


Figure 38

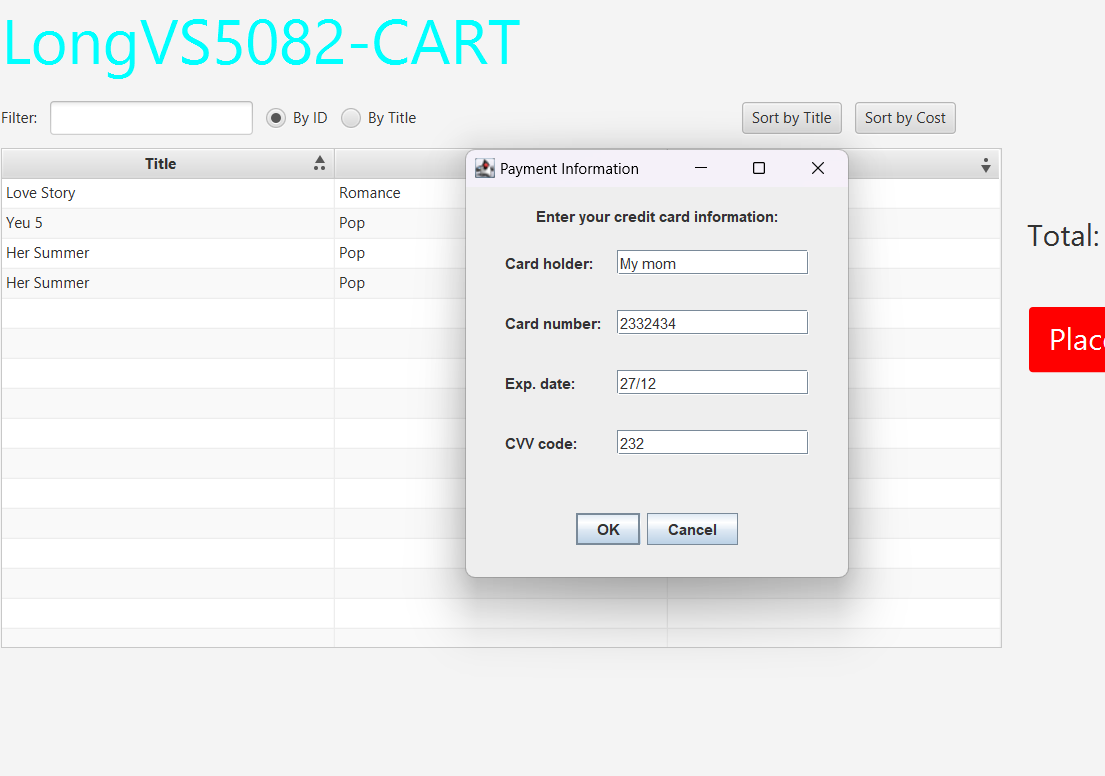


Figure 39 Payment information

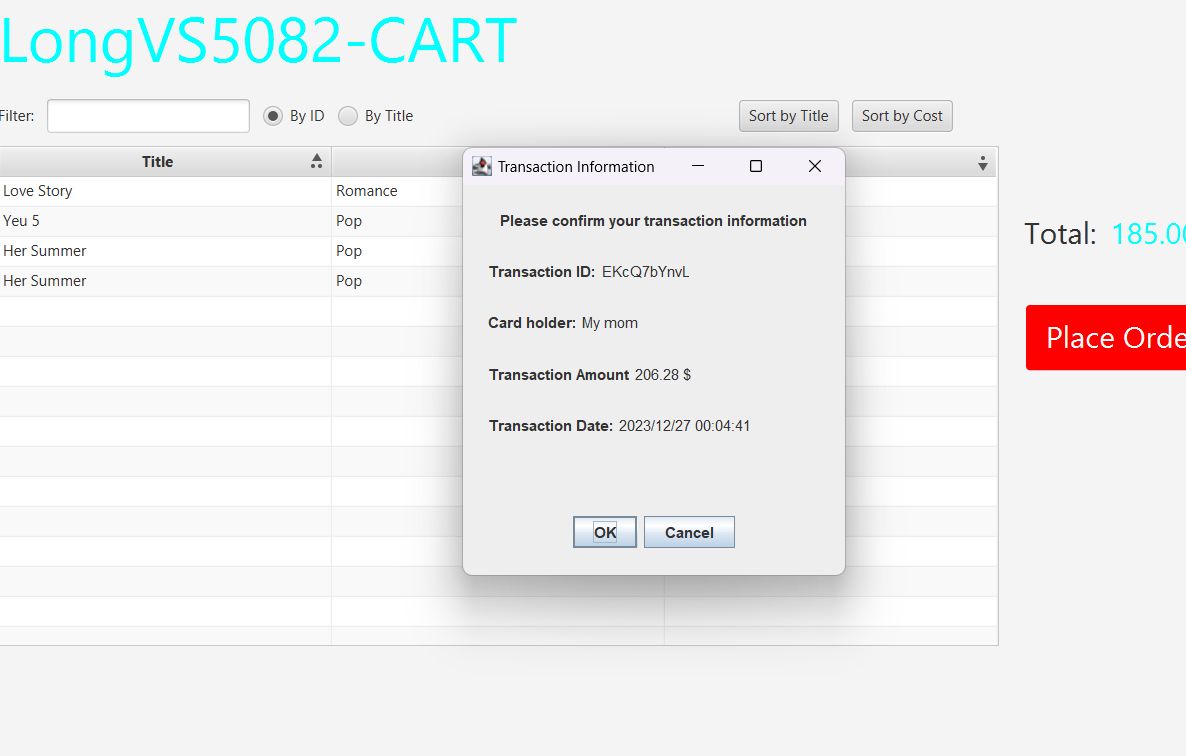


Figure 40 Transaction information

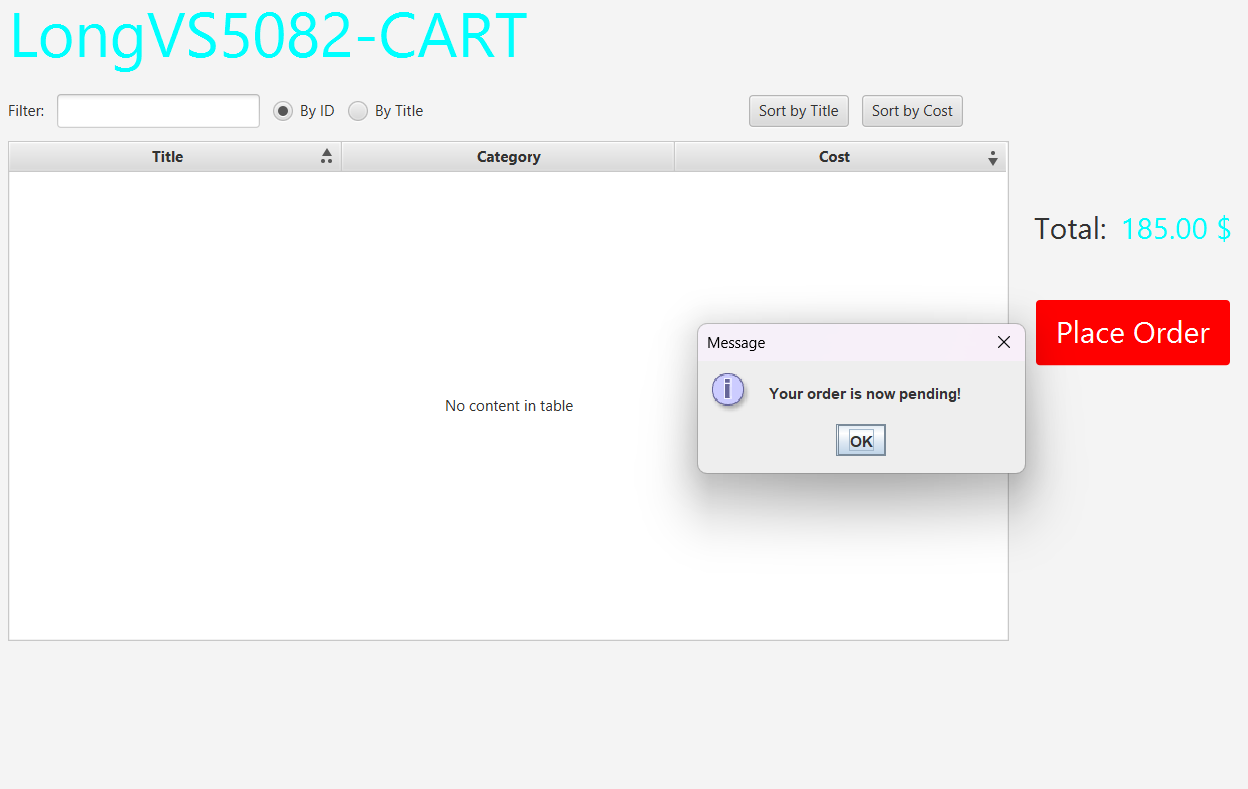


Figure 41

1. Check all previous codes to catch runtime exceptions
   1. Cart

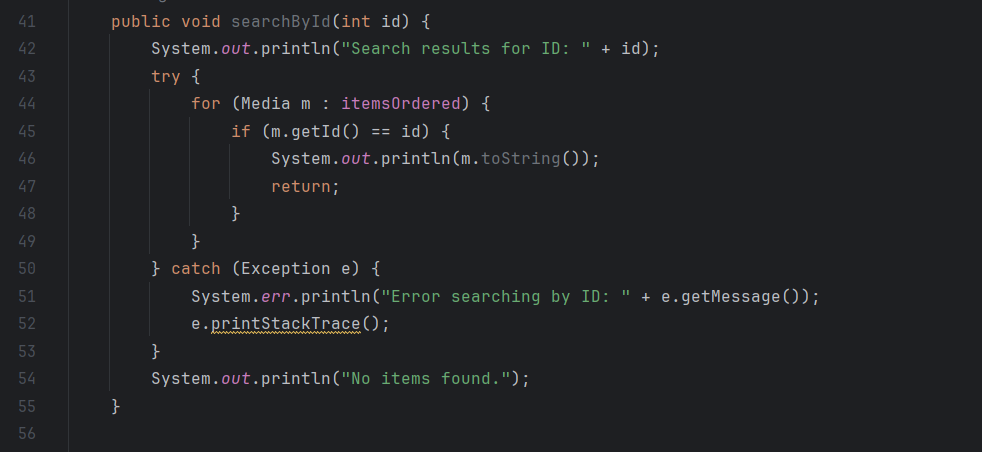


Figure 42 Cart exception 1

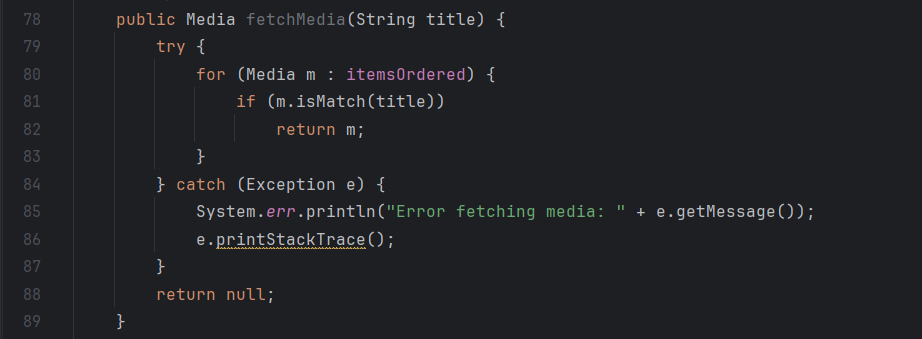


Figure 43 Cart exception 2

* 1. Main class

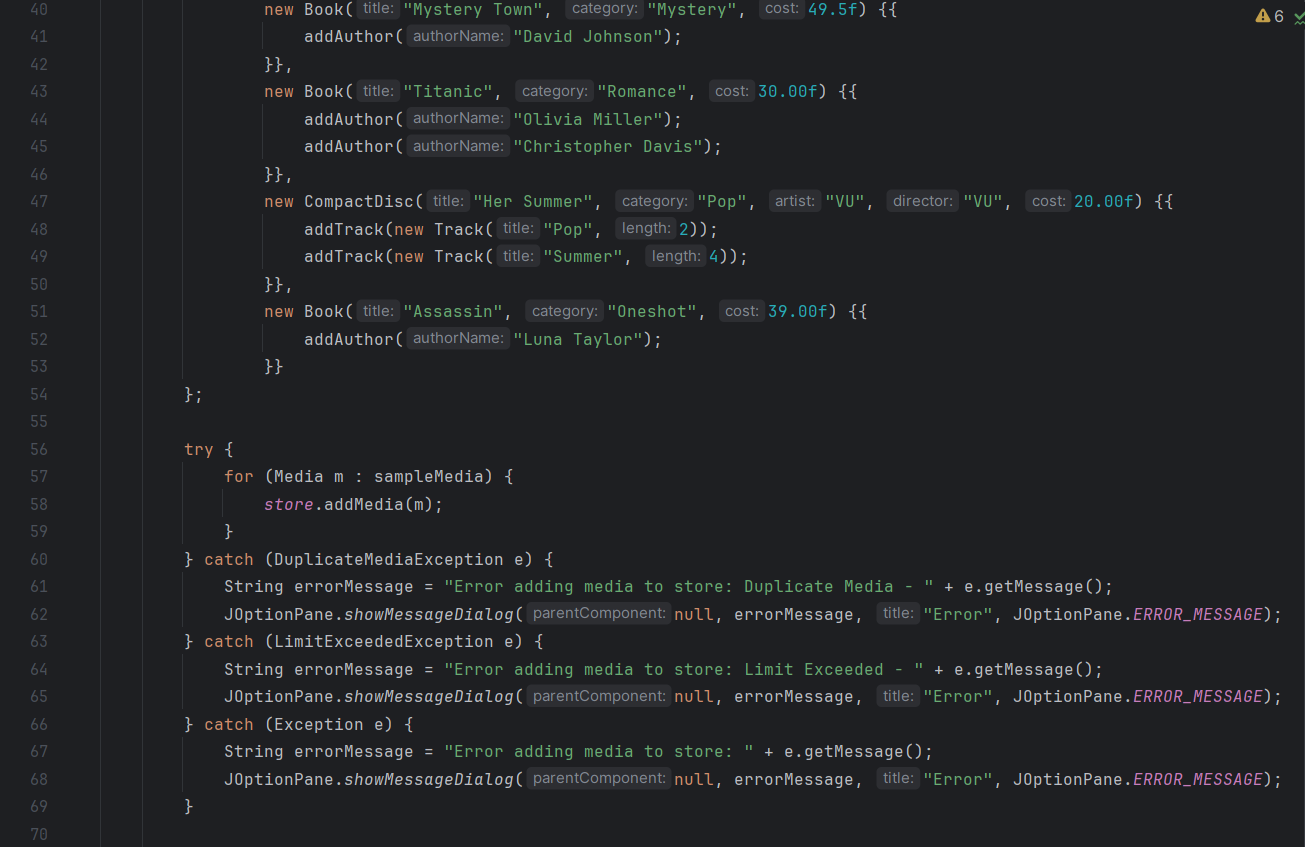


Figure 44

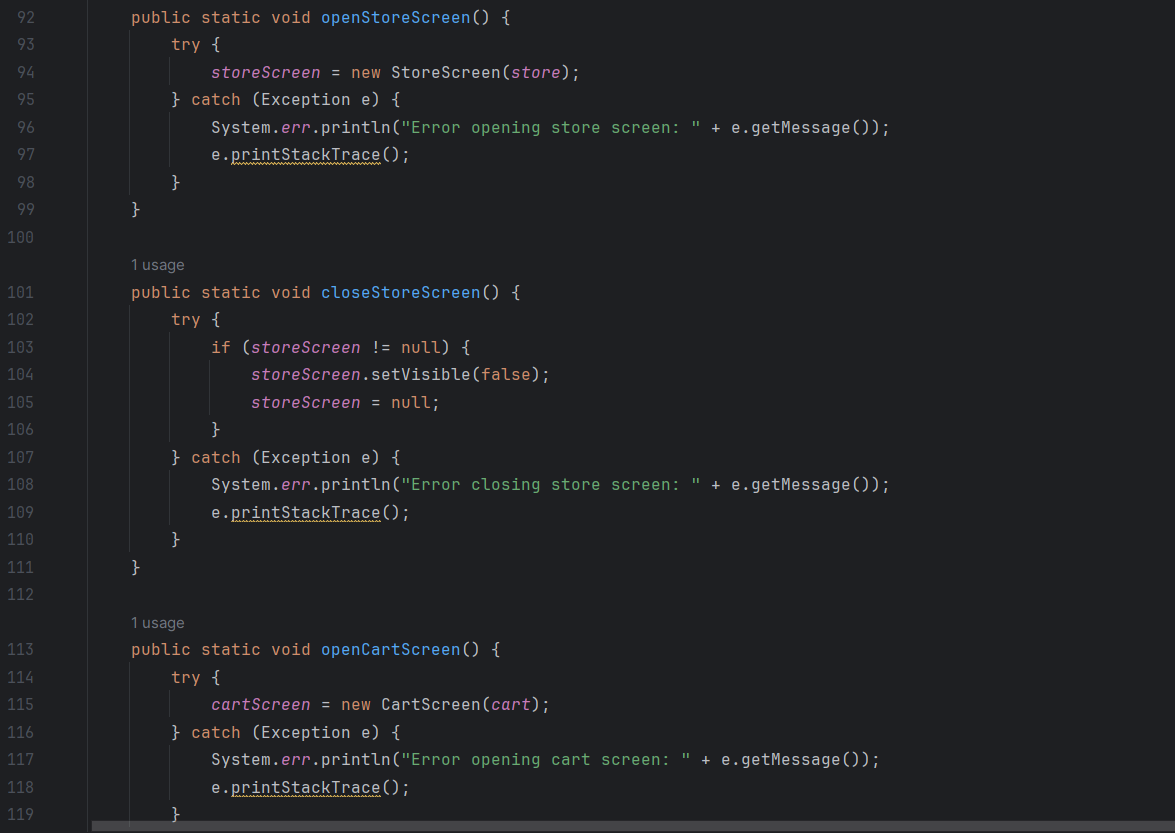


Figure 45

1. Create a class which inherits from Exception

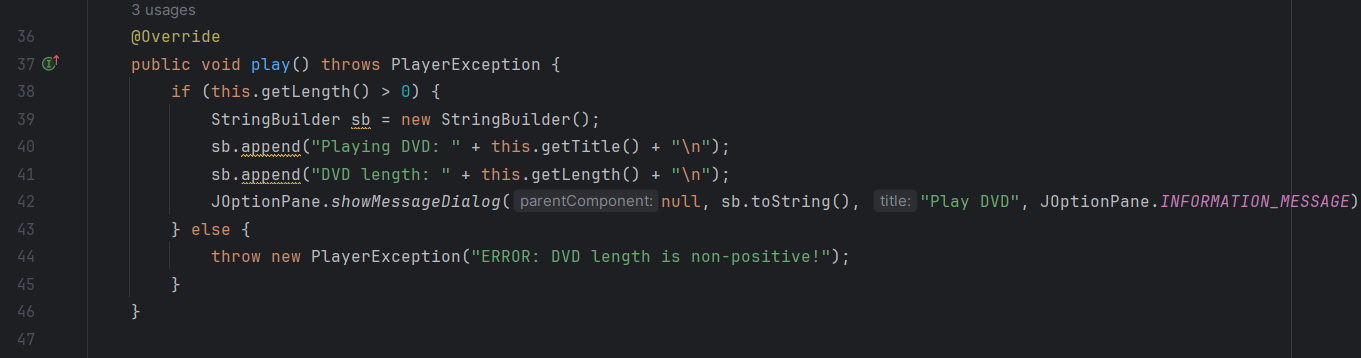


Figure 46 DigitalVideoDisc

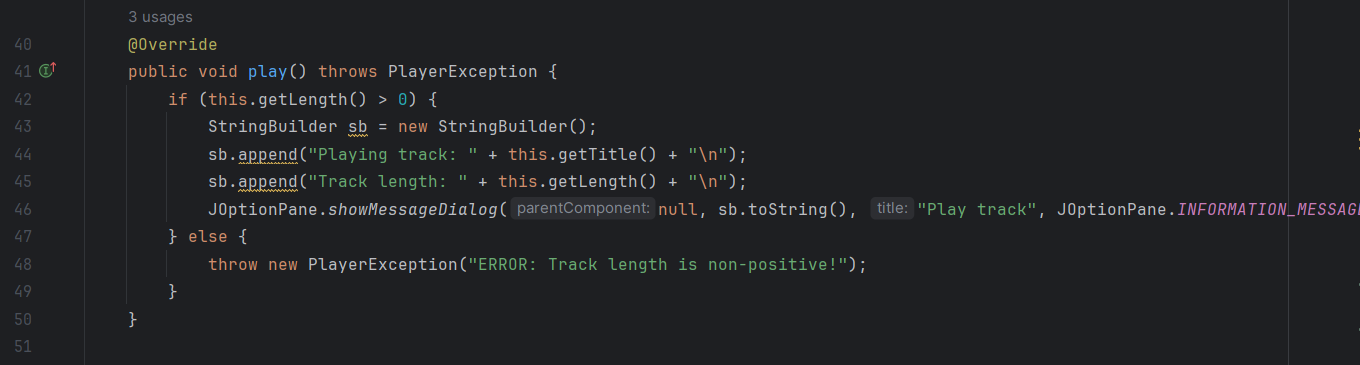


Figure 47 Track

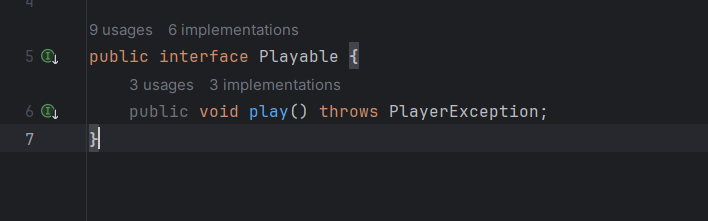


Figure 48 Playable



Figure 49 CompactDisc

1. Update the Aims class

**Q:**The Aims class must be updated to handle any exceptions generated when the play() methods are called.

What happens when you don’t update for them to catch?

**A:**Trong Java, khi một phương thức được khai báo ném một ngoại lệ kiểm tra (checked exception), mã gọi (hoặc phương thức gọi) phải xử lý ngoại lệ đó bằng cách sử dụng khối try-catch hoặc chuyển tiếp ngoại lệ bằng cách khai báo nó trong mệnh đề throws. Nếu bạn không xử lý hoặc chuyển tiếp ngoại lệ kiểm tra, mã sẽ không biên dịch được.

Nếu bạn không bao gồm khối try-catch hoặc không khai báo ngoại lệ trong mệnh đề throws của phương thức main, trình biên dịch sẽ tạo ra một lỗi, và chương trình của bạn sẽ không biên dịch được.

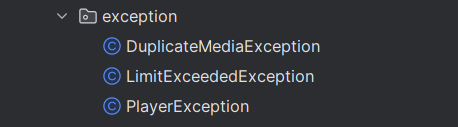


Figure 50 Exception classes

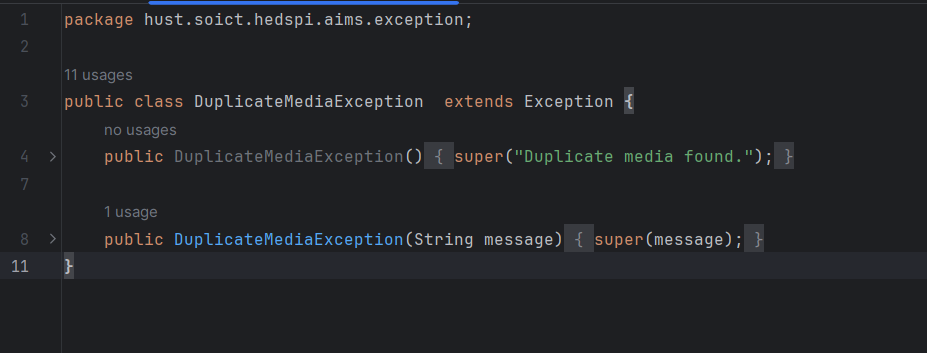


Figure 51 Exception 1

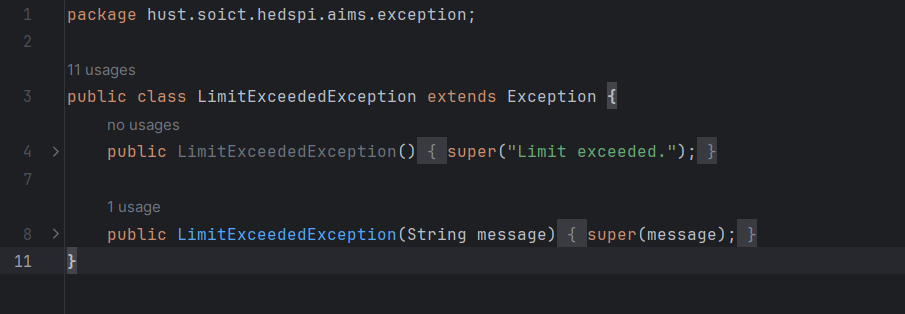


Figure 52 Exception 2



Figure 53

1. Modify the equals() method of Media class

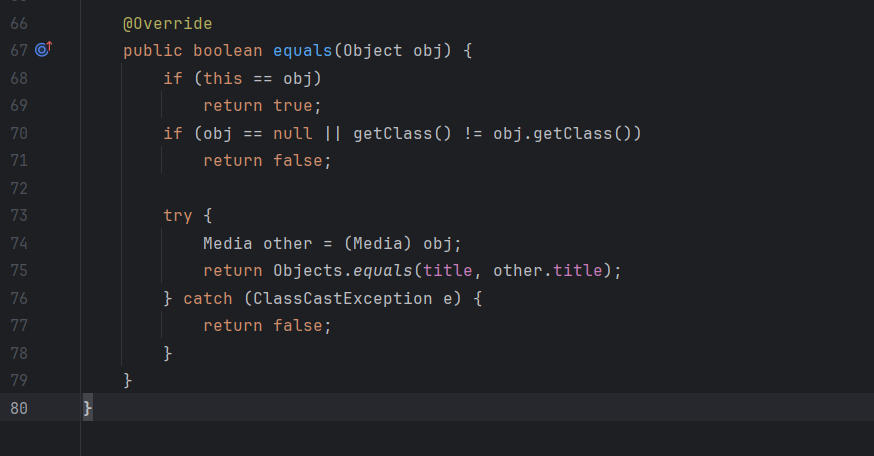


Figure 54

**Giải thích :**

Dòng code if (obj == null || getClass() != obj.getClass()) return false; kết hợp kiểm tra null và kiểm tra loại (class check) vào một dòng bằng cách sử dụng toán tử OR logic (||). Nghĩa là nếu đối tượng obj là null hoặc không phải là một đối tượng của cùng một lớp (class) với đối tượng hiện tại, thì phương thức sẽ trả về giá trị false.

Dòng code try { Media other = (Media) obj; ... } catch (ClassCastException e) { return false; } sử dụng khối try-catch để bắt lỗi ClassCastException. Nếu một ngoại lệ ClassCastException xảy ra, điều này có nghĩa là đối tượng đang được so sánh không phải là một thể hiện của lớp mong đợi (Media). Trong trường hợp này, phương thức sẽ trả về giá trị false.

1. Update aims class diagram

Since this part just asks for the Exception classes diagram (in the guidance) I will just put the Exception part here (the full diagram is in the first section of this report).

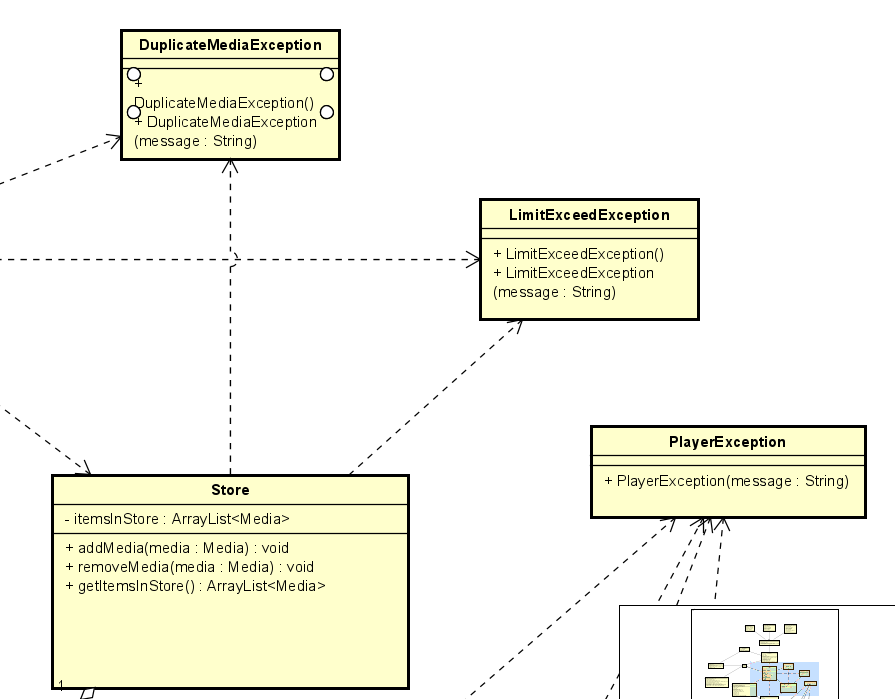


Figure 55 Update