

Ismail Ali, Brandon Christian, Ethan Curtis, and James Mundy

10/27/23

COP 4331

Design Specification

Project Title: CartSafari

Platform specification: Swing

Revised Functional Specification with GUI

Revised Requirements Specification:

Login Screen-

Elements: Username text field, Password text field, Login button

Customer Main Window-

Elements: Product list (Product name, Price, Quantity), Add to Cart button

Product Details Popup-

Elements: Product name, Description, Price, Availability, Add to Cart button, Close button

Shopping Cart Window-

Elements: List of selected items (Product name, Quantity, Price), Remove button, Checkout button

Shipment Window-

Elements: Text fields for shipping address, payment information, Next button, Cancel button

Payment Window-

Elements: Credit card number, Expiry date, CVV, Pay button, Cancel button

Seller Inventory Window-

Elements: List of available products (Product ID, Name, Quantity, Invoice Price, Selling Price), Add Product button, Update button, Delete button

## Financial Reports Window-

Elements: Summary of financial data, Export buttons (PDF, Excel)

CRC Cards:

User	
<ul style="list-style-type: none"><li>Responsibilities:</li><li>-Store user credentials (username, password).</li></ul>	<ul style="list-style-type: none"><li>Collaborators:</li><li>-None</li></ul>

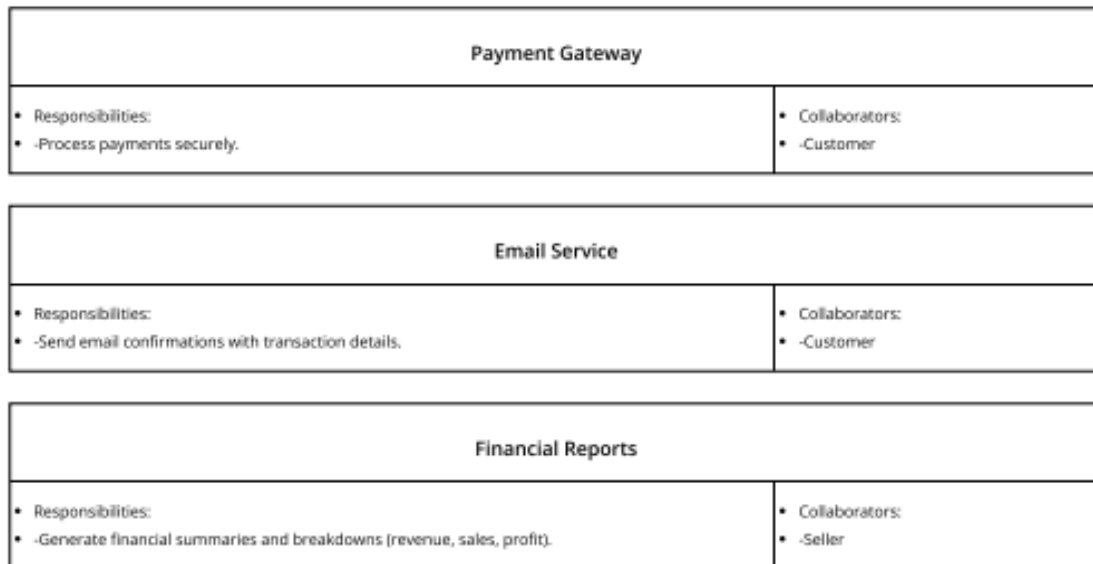
Customer	
<ul style="list-style-type: none"><li>Responsibilities:</li><li>-Access product information (name, price, quantity, description).</li><li>-Manage shopping cart (add items, remove items, view total price).</li><li>-Initiate checkout process</li></ul>	<ul style="list-style-type: none"><li>Collaborators:</li><li>-Product</li><li>-Shopping Cart</li><li>-Payment Gateway</li></ul>

Seller	
<ul style="list-style-type: none"><li>Responsibilities:</li><li>-Manage inventory (add products, update product details, view product information).</li><li>-View financial reports.</li></ul>	<ul style="list-style-type: none"><li>Collaborators:</li><li>-Product</li><li>-Inventory</li><li>-Financial Reports</li></ul>

Product	
<ul style="list-style-type: none"><li>Responsibilities:</li><li>-Store product details (name, price, quantity, description).</li></ul>	<ul style="list-style-type: none"><li>Collaborators:</li><li>-Customer</li><li>-Seller</li></ul>

Shopping Cart	
<ul style="list-style-type: none"><li>Responsibilities:</li><li>-Store selected items (product, quantity, price).</li><li>-Calculate total price.</li></ul>	<ul style="list-style-type: none"><li>Collaborators:</li><li>-Customer</li></ul>

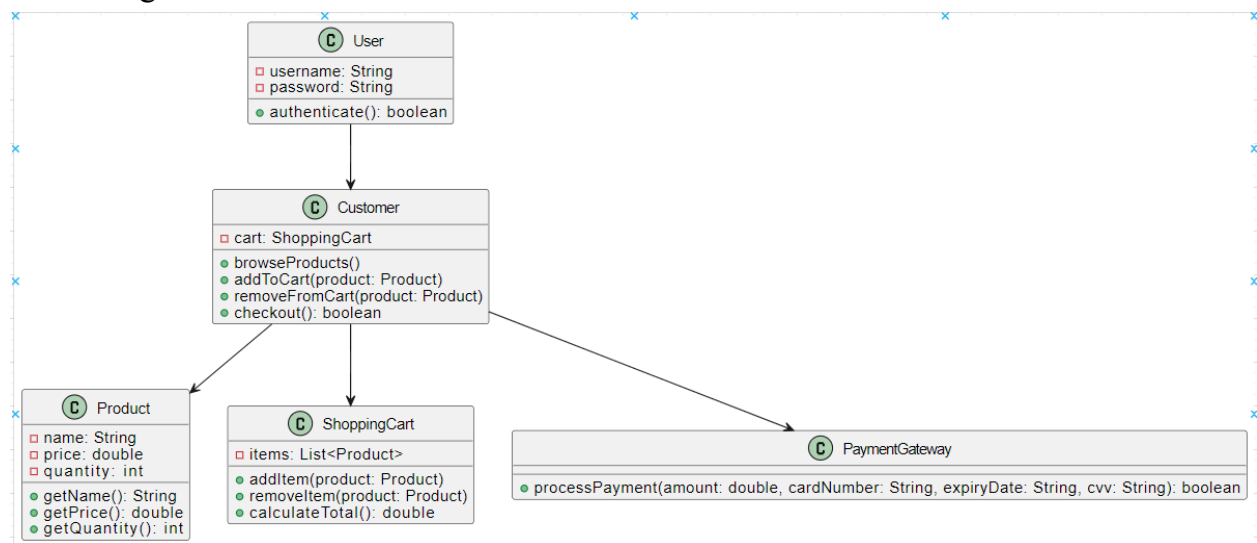
Inventory	
<ul style="list-style-type: none"><li>Responsibilities:</li><li>-Store available products (product ID, name, quantity, invoice price, selling price).</li><li>-Update product details.</li></ul>	<ul style="list-style-type: none"><li>Collaborators:</li><li>-Seller</li><li>-Product</li></ul>



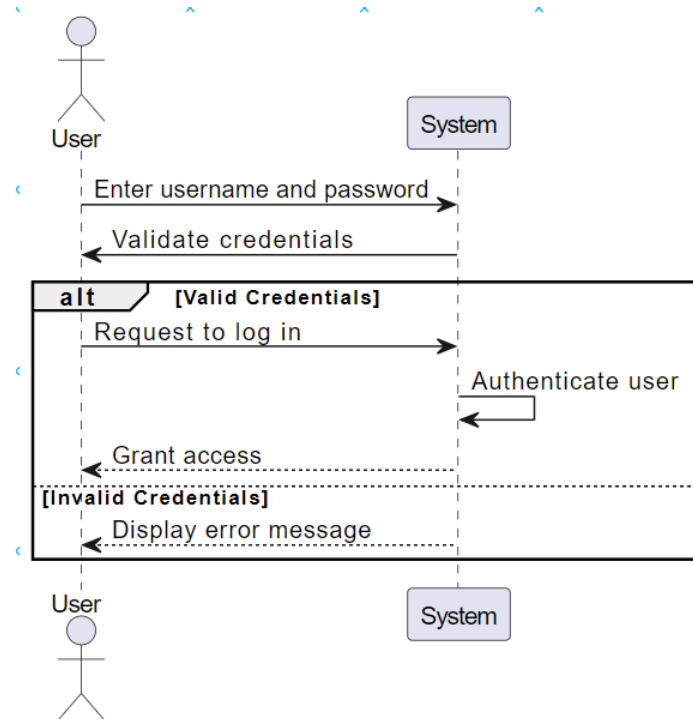
UML Diagrams:

Case 1: User logs in

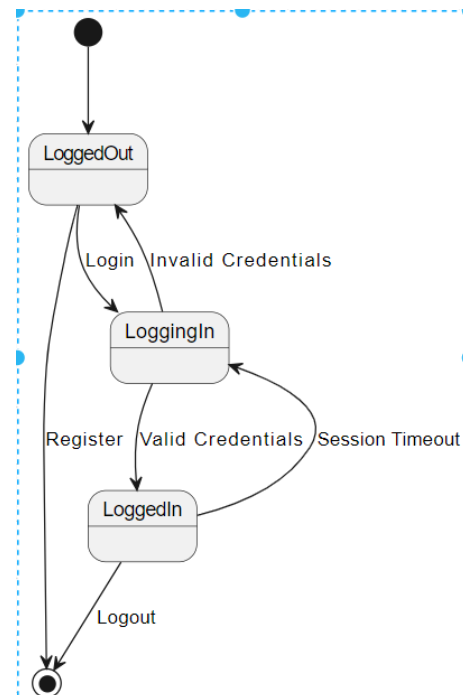
Class Diagram-



## Sequence Diagram:

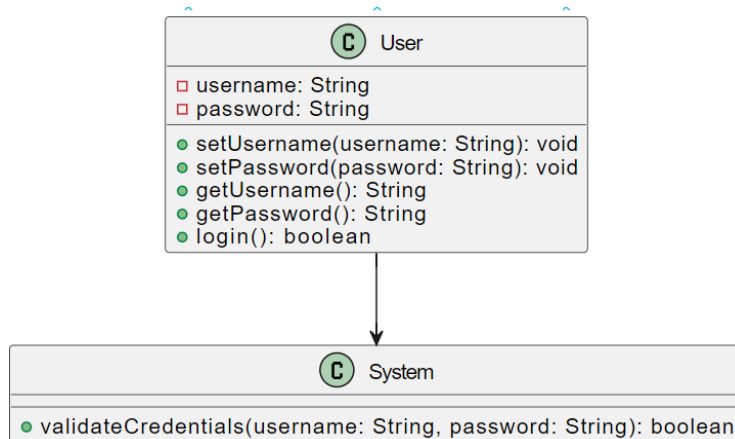


## State Diagram-

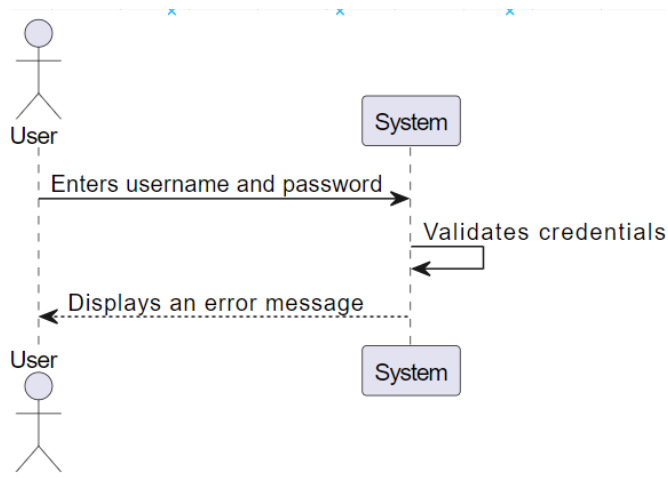


## Variant Scenario: Invalid Credentials

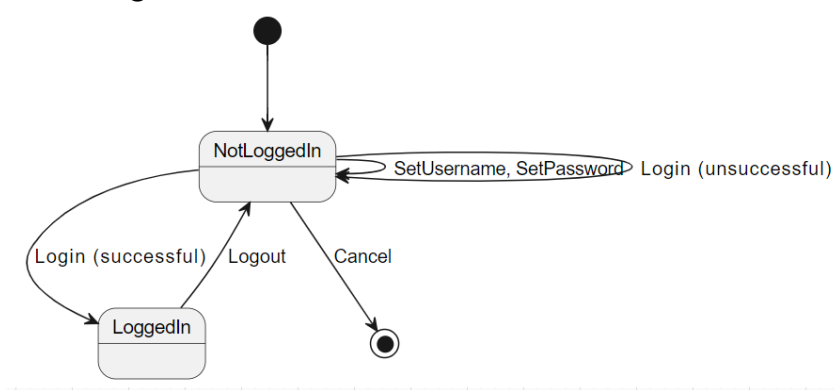
### Class Diagram-



### Sequence Diagram-

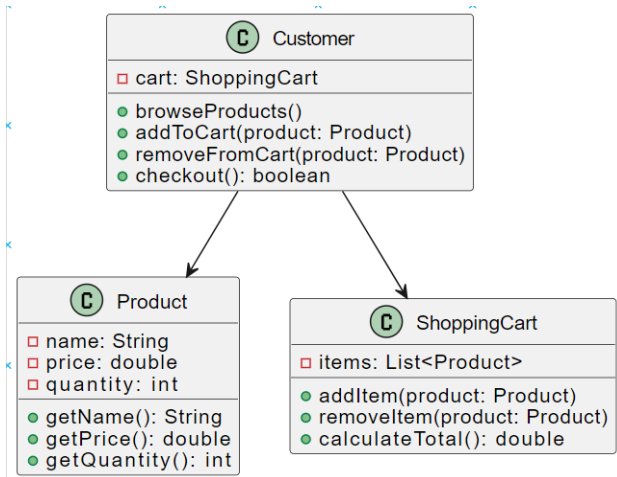


### State Diagram-

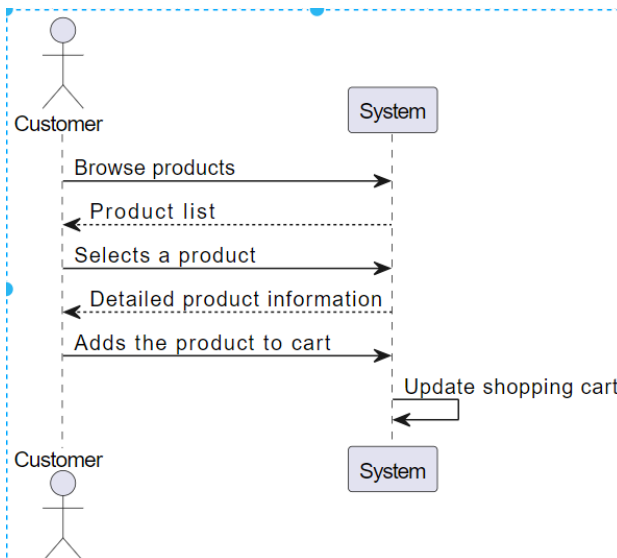


## User Case 2: Customer adds item to shopping cart

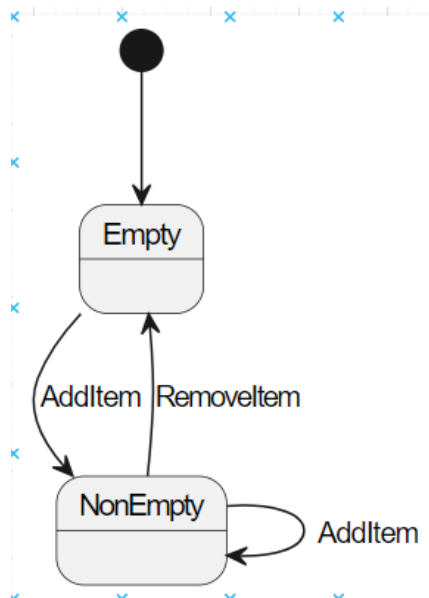
### Class Diagram-



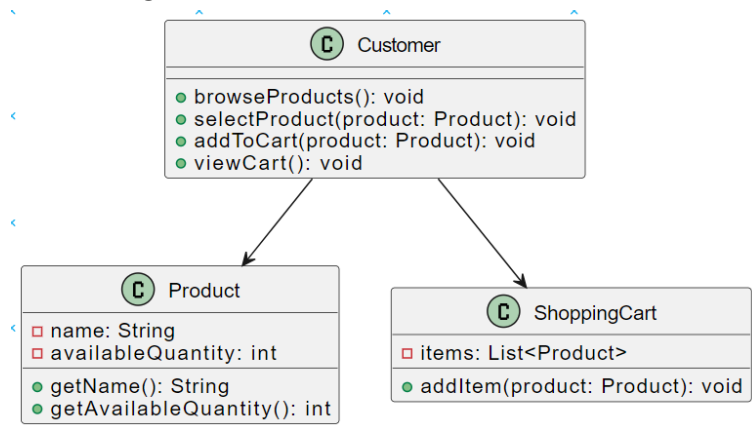
### Sequence Diagram-



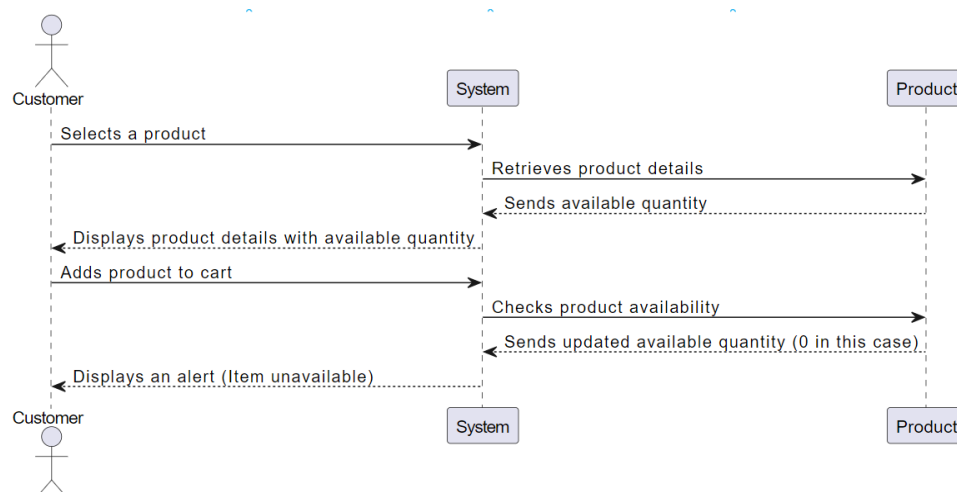
## State Diagram-



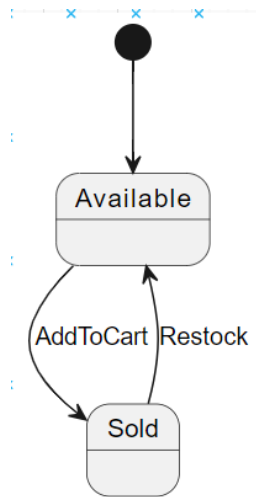
## Variant Scenario: Item Unavailable Class Diagram-



## Sequence Diagram-

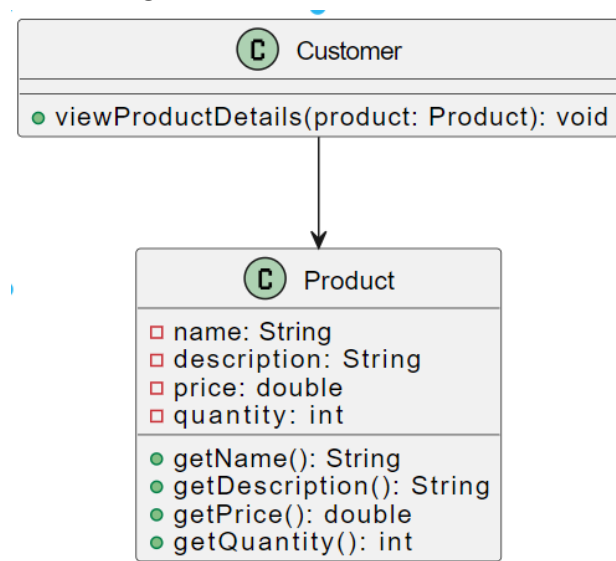


### State Diagram-

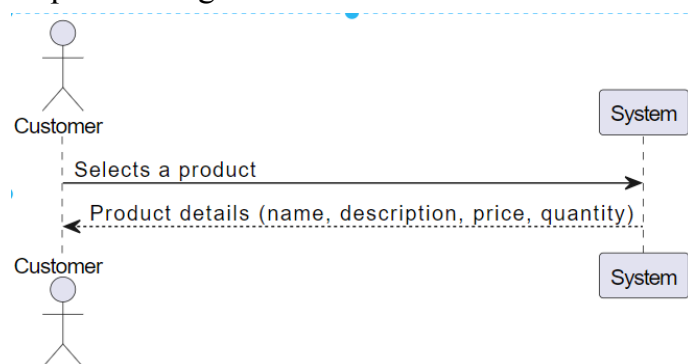


### Use Case 3: Customer Reviews Product Details

### Class Diagram-

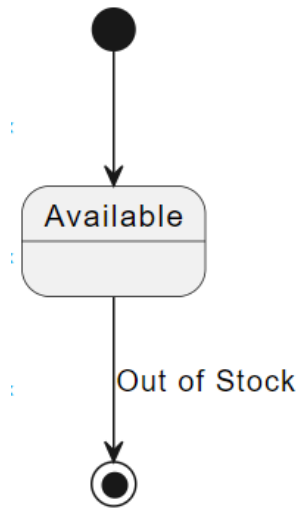


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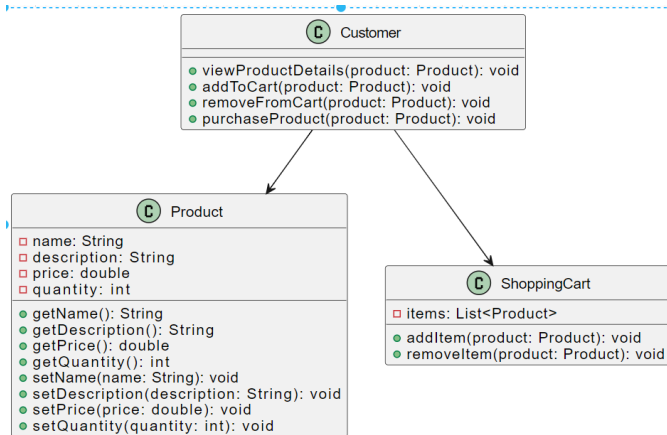


## State Diagram-

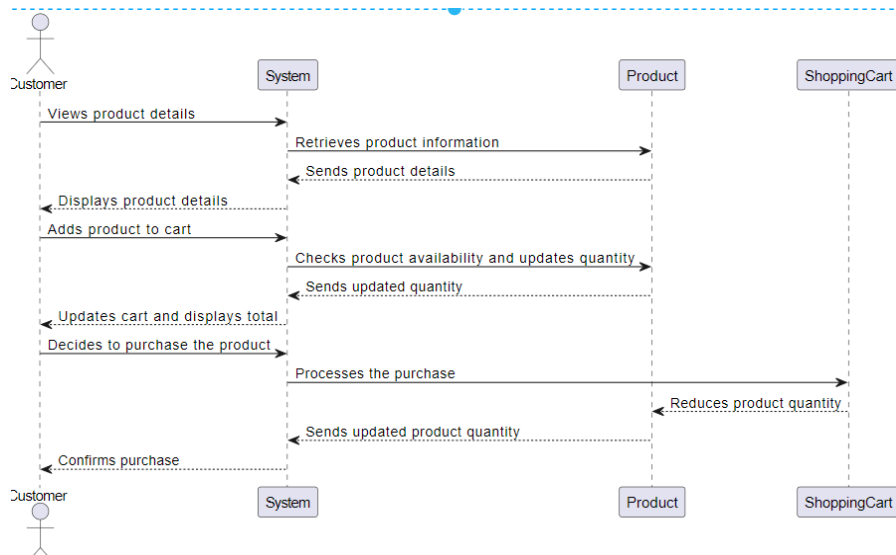


## Variant Scenario: Customer Makes A Purchase

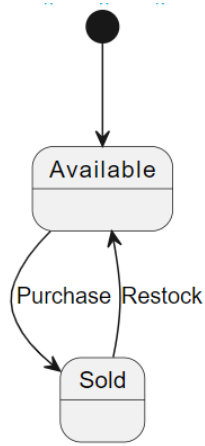
### Class Diagram-



### Sequence Diagram-

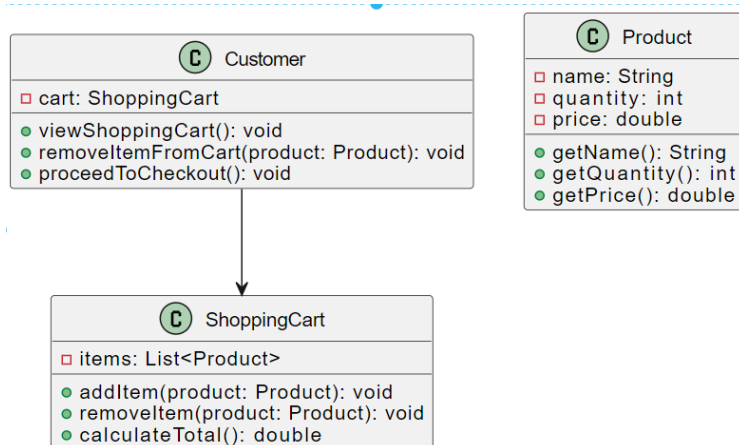


## State Diagram-

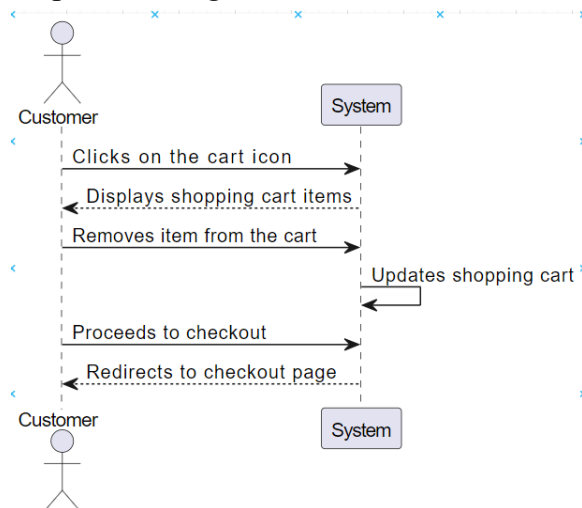


## Use Case 4: Customer Reviews Shopping Cart

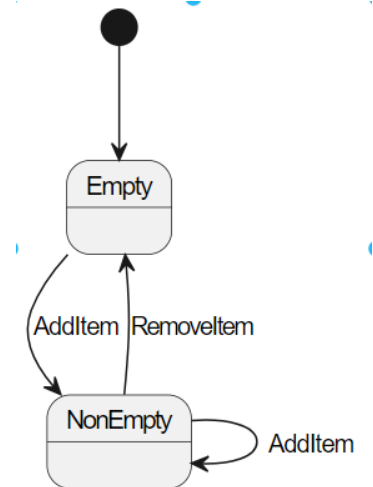
## Class Diagram-



## Sequence Diagram-

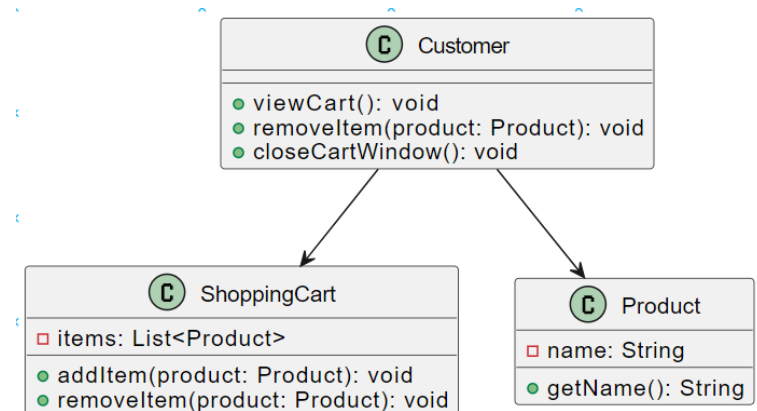


## State Diagram-

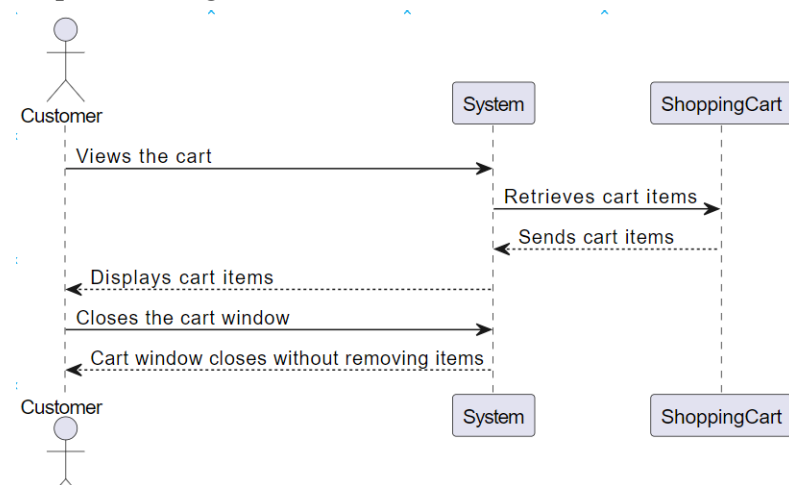


## Variant Scenario: Customer Closes Cart Window

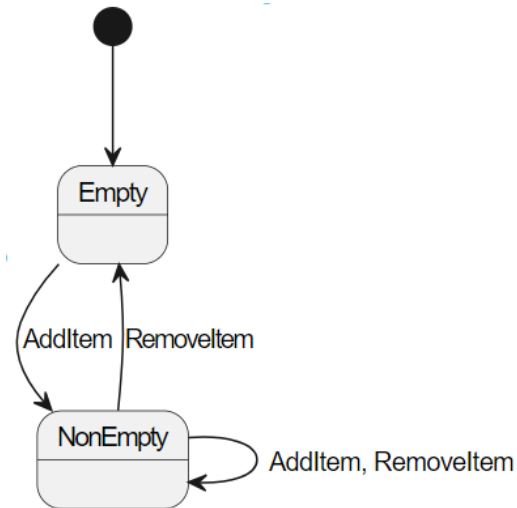
## Class Diagram-



## Sequence Diagram-

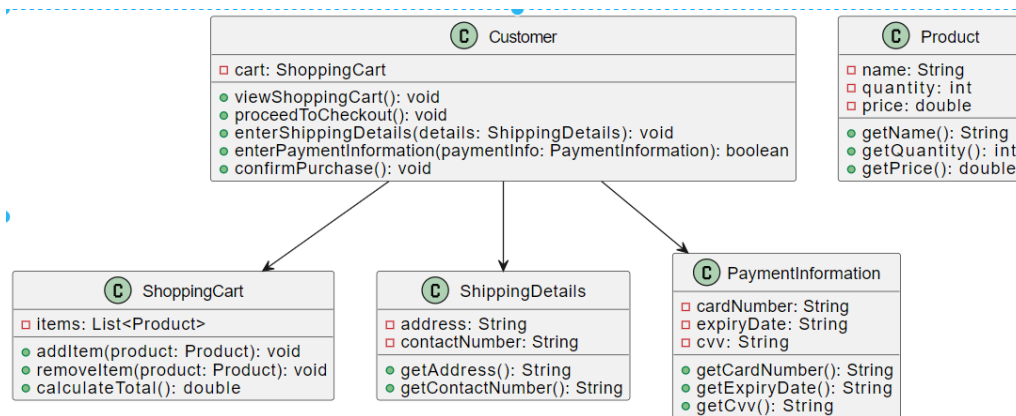


## State Diagram-

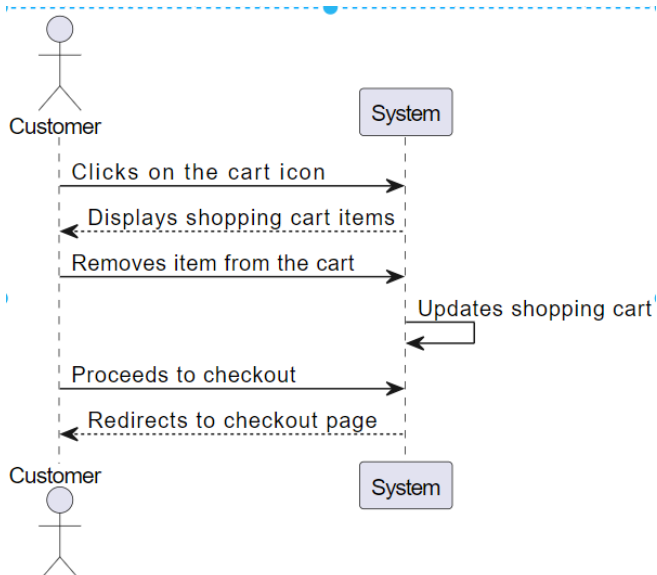


## Use Case 5: Customer Checks Out

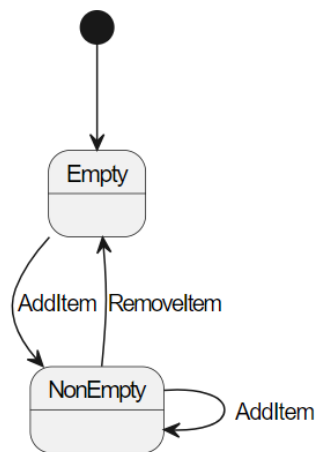
### Class Diagram-



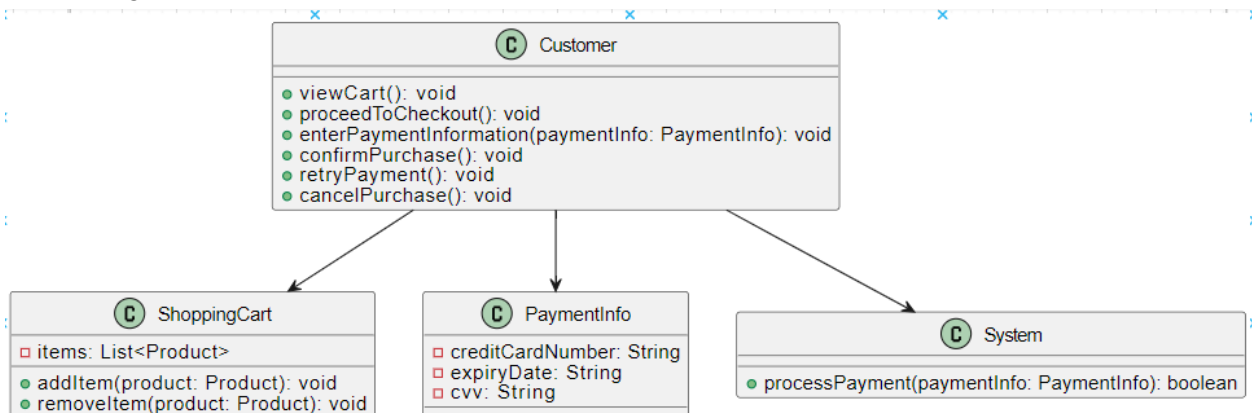
### Sequence Diagram-



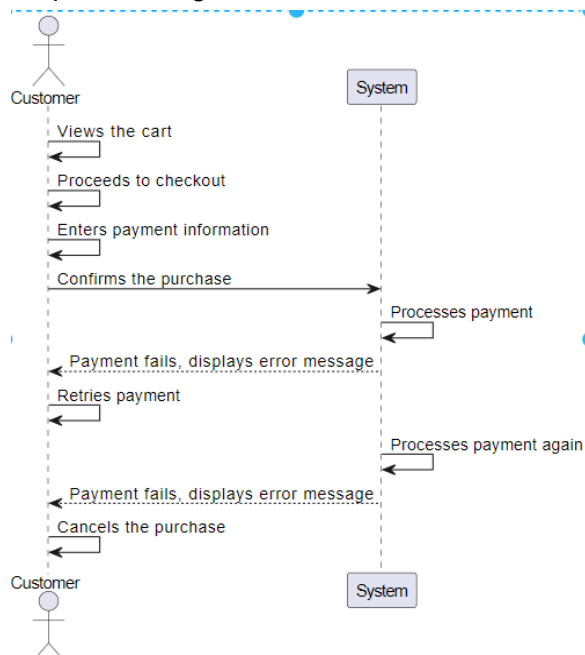
## State Diagram-



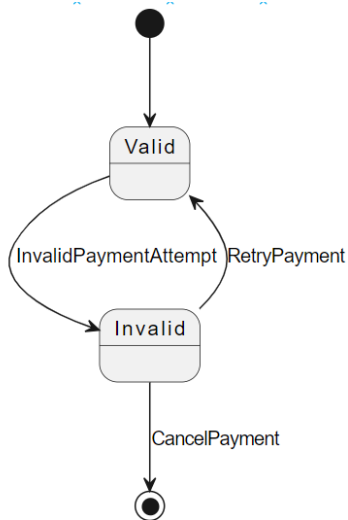
## Variant Scenario: Payment Failure Class Diagram-



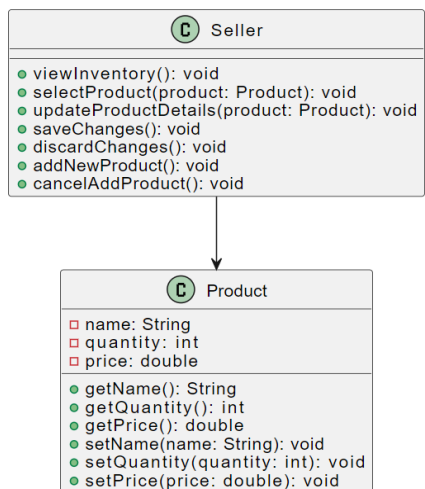
## Sequence Diagram-



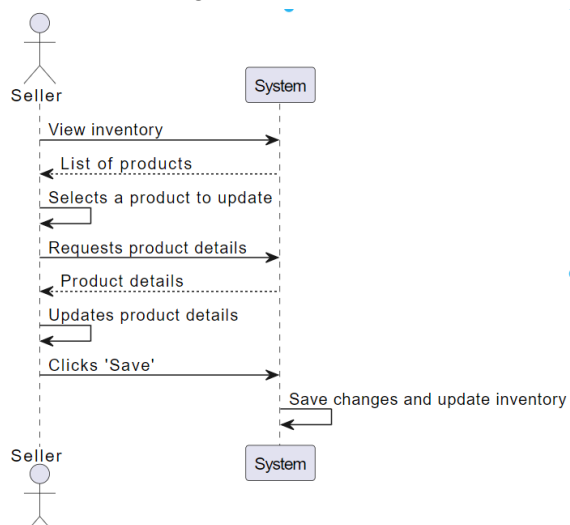
## State Diagram-



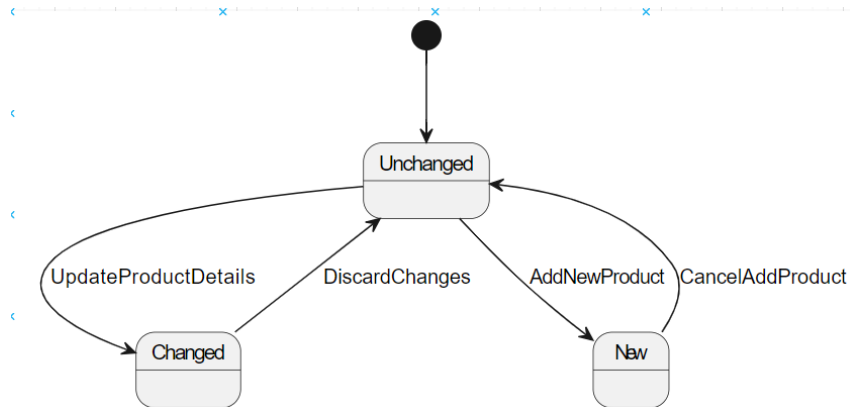
## Use Case 6: Seller Reviews/Updates Inventory Class Diagram-



## Sequence Diagram-

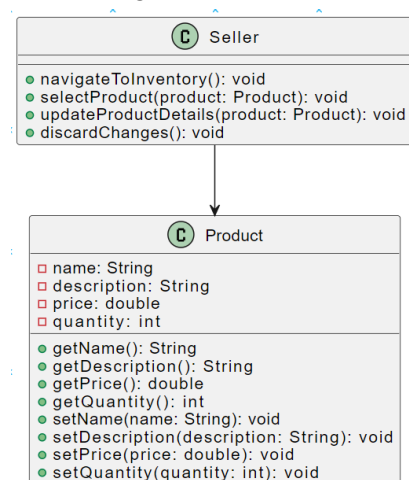


## State Diagram-

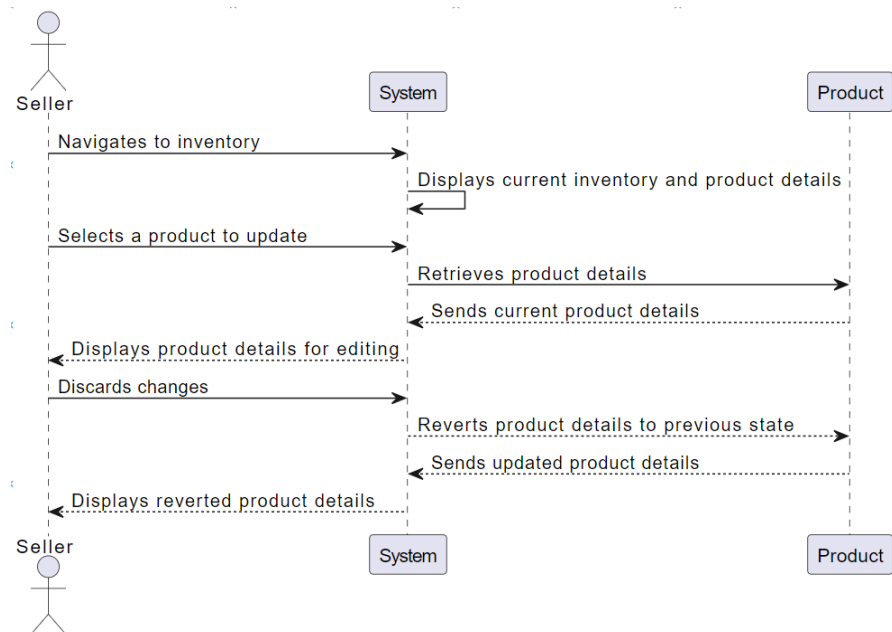


## Variant Scenario: Seller Discards Changes

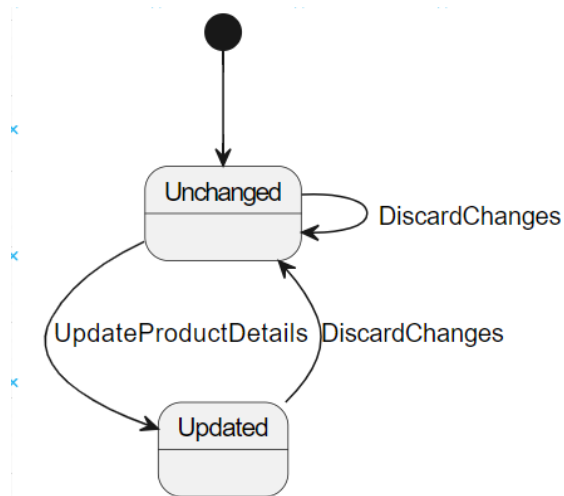
### Class Diagram-



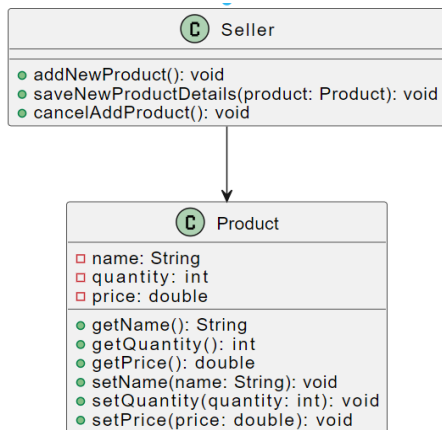
### Sequence Diagram-



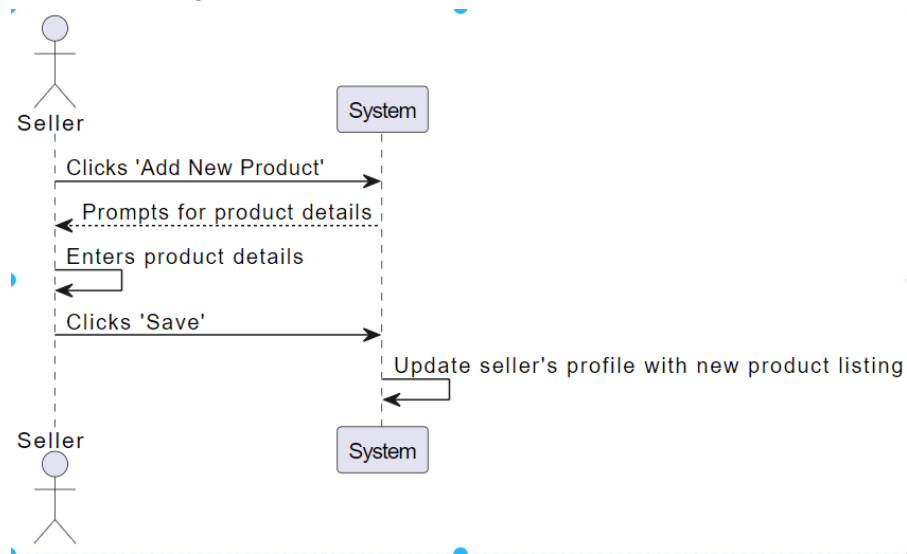
## State Diagram-



## Use Case 7: Seller Adds New Product Class Diagram-

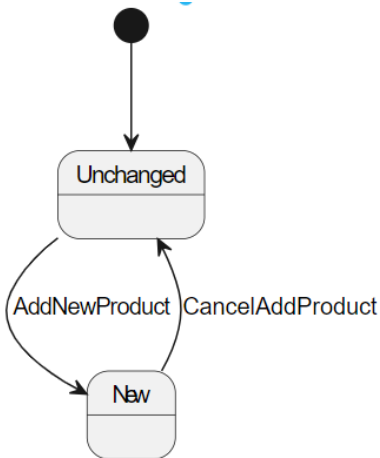


## Sequence Diagram-



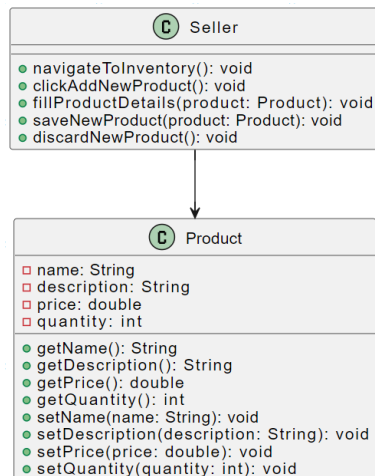


## State Diagram-

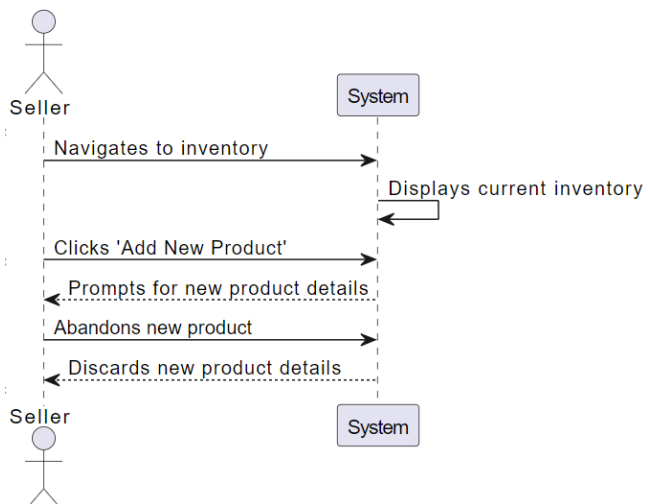


## Variant Scenario: Seller Abandons New Product

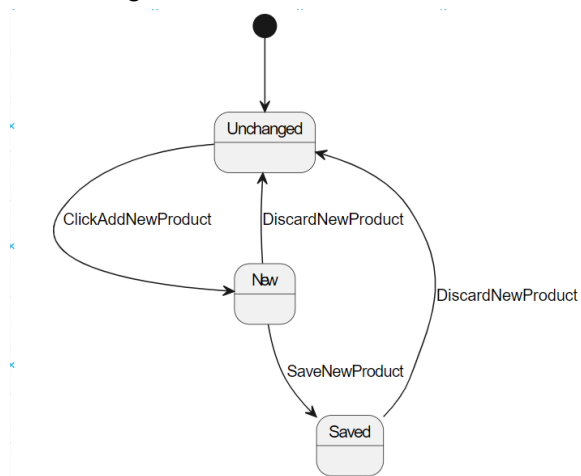
### Class Diagram-



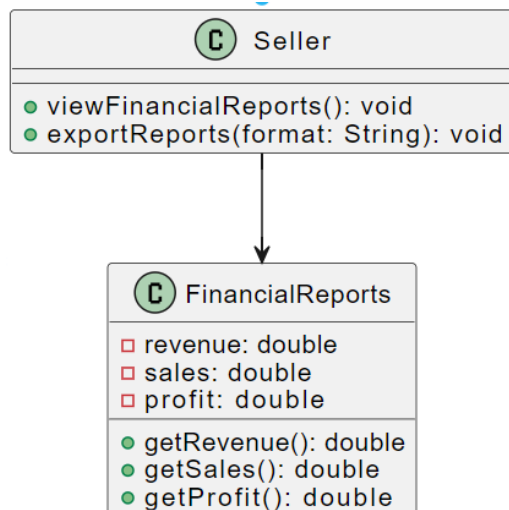
### Sequence Diagram-



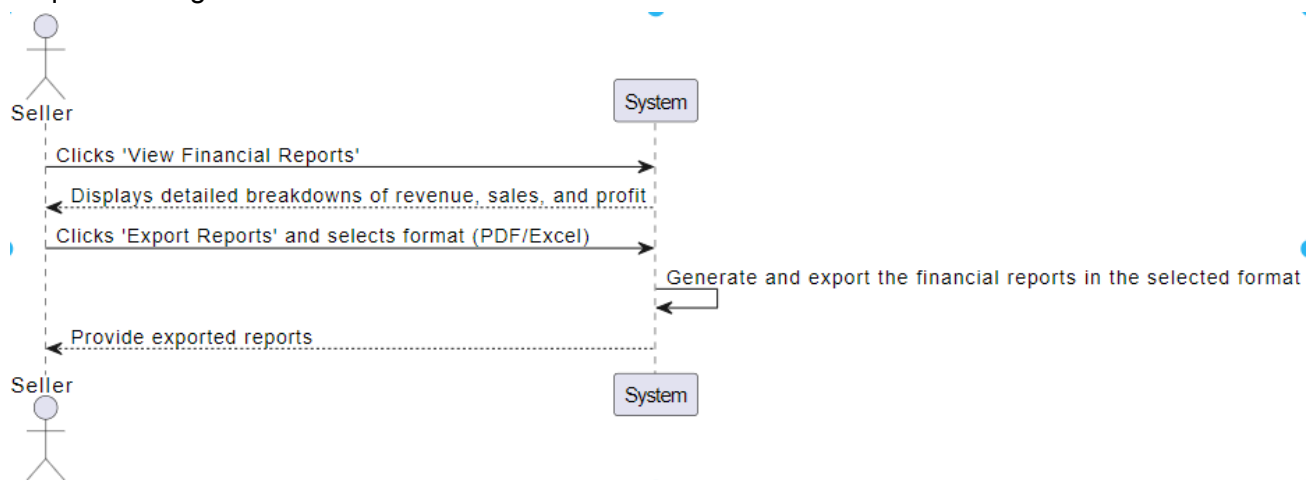
## State Diagram-



## Use Case 8: Seller Views Financial Reports Class Diagram-



## Sequence Diagram-



State Diagram-

