



OOP Assignment 3 (Complex Computing Problem)

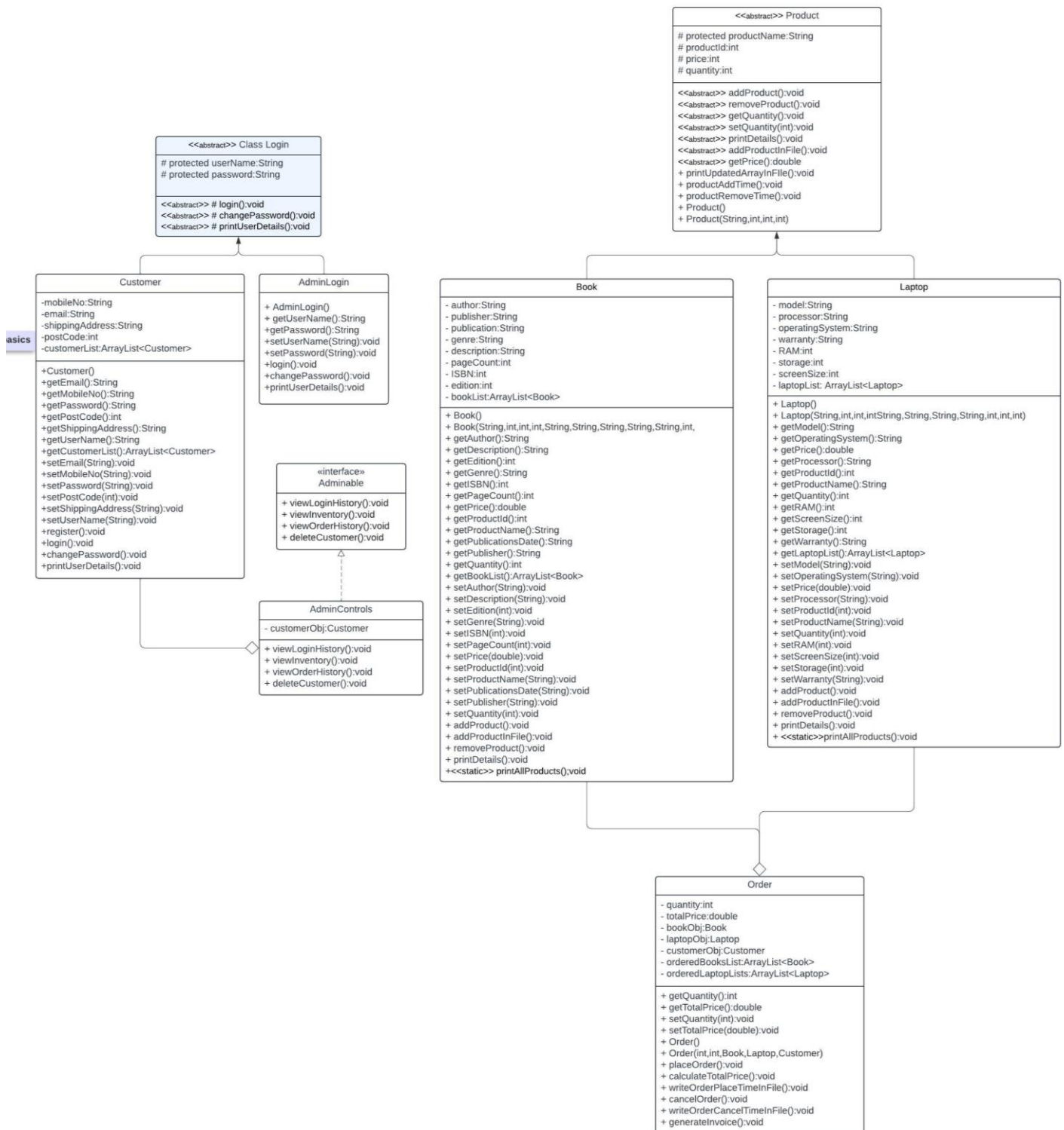
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Course:	OOP
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Deliverables / Questions:

Question 01

(CLO4, PLO4, C5) (5 Marks)

- a. **Determine** the class relationships. Make UML with proper relations among classes.



- b. **Recommend** 2 more classes to enhance the vertical scope of the project. With complete justification.

Shipment Class: Represents the shipment process for orders. It holds details related to the shipment, such as the shipment ID, the order being shipped, shipment date, shipping address, and shipped items. It helps in organizing and managing the logistics aspect of fulfilling orders, connecting with the Order and OrderItem classes to ensure correct items are shipped from inventory.

Warehouse Class: Represents physical locations where products are stored. It holds details like warehouse ID, name, address, and a list of products stored at that warehouse. This class assists in managing inventory by tracking the locations where products are stored.

Question 02

(CLO3, PLO4, C4) (5 Marks)

- a. **Make inferences** using JAVA code of all classes of your modified UML with proper class relationships.
- b. Analyze your project by Application Class. Making 2 objects of each class used. Provide Outputs as well.

Case1:

Admin logs into the system then adds two products in the inventory then customer registers into the system and places order for a book, then the invoice gets generated

Code:

```
public class ECommerceManagementSystem {

    public static void main(String[] args) {

        // obj of Customer class
        AdminLogin admin = new AdminLogin();

        //two obj of product class
        Book book1 = new Book();
        Laptop laptop1 = new Laptop();
        book1.addProduct();
        book1.addProductInFile();
        laptop1.addProduct();
        laptop1.addProductInFile();

        //obj of customer
        Customer customer1 = new Customer();
        customer1.register();

        //obj of Order class
        Order order1 = new Order();
        order1.placeOrder();
```

```

        order1.writeOrderPlaceTimeInFile(book1);
        order1.getTotalPrice();
        order1.generateInvoice(book1, customer1);
    }
}

```

Output:

```

===== Add Product =====
Enter Book Title : Diary of a wimpy kid
Enter Author of the book : jiff kenney
Enter Product ID of the Book : 2382
Enter Price of the Book : 899
Enter Quantity of Stock : 56
Enter ISBN of the Book : 238727
Enter Publication Date of the Book : 12-4-2023
Enter Genre of the Book : illustrations
Enter Description of the Book : story of a teenage school going boy
Enter Edition of the Book (in numbers) : 3
Enter Page Count of the Book : 245
Book has been added successfully in inventory...
===== Add Product =====
Enter Laptop Brand : Lenovo
Enter Model of the Laptop : thinkpad
Enter Product ID of Laptop : 12861
Enter Price of the Laptop : 65000
Enter Quantity of Stock : 4
Enter Processor of Laptop : i7 8th gen
Enter Operating System of Laptop : win10
Enter Warranty of Laptop : 2
Enter RAM (in GBs) : 12
Enter Storage (in GBs) : 1000
Enter Screen Size (in Inches) : 12
Laptop has been added successfully in inventory...
Book has been added successfully in inventory...

```

===== User Registration =====

Enter your User Name : raza

Enter your Password : 1234

Enter your Mobile no : 034777

Enter your Shipping Address : house no A26

Enter your Post Code : 75050

Your Registration was successful :)

=====

All Products

=====

===== Details of All Books =====

Book Title : Diary of a wimpy kid

Book Author : jiff kenney

Book Id : 2382

Book Price : 899.0

Books Quantity : 56

Book ISBN : 238727

Publication Date : 12-4-2023

Book Genre : illustrations

Book Description : story of a teenage school going boy

Book Edition : 3

Book Page Count : 245

===== Details of All Products =====

Laptop Brand : Lenovo

Laptop Model : thinkpad

Laptop Product Id : 12861

Laptop Price : 65000.0

Laptops Quantity : 4

Laptop Processor : i7 8th gen

Operating System : win10

Warranty : 2

RAM : 12

Storage : 1000

Screen Size : 12

Enter the name of the product you want to buy :

Diary of a wimpy kid

Enter the Product ID :

2382

The Product you selected is :

===== Details of Product =====

Book Title : Diary of a wimpy kid

Book Author : jiff kenney

Book Id : 2382

Book Price : 899

Books Quantity : 56

Book ISBN : 238727

Publication Date : 12-4-2023

Book Genre : illustrations

Book Description : story of a teenage school going boy

Book Edition : 3

Book Page Count : 245

===== Calculate Total Price =====

Enter the Quantity You want to buy :

42

Your Total Price is : 37758.0

Your Order has been placed. Thank you for Shopping from our store...

=====

Invoice

=====

Customer Name : raza

Mobile no : 034777

Email : null

Shipping Address : house no A26

Post Code : 75050

Invoice number : 357

=====

Product Name : Diary of a wimpy kid

Product Id : 2382

Per unit price : 899

Quantity : 42

Total Price : 37758.0

=====

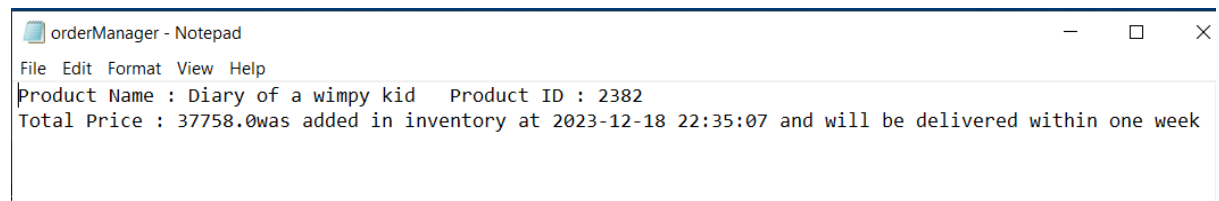
Output of the All products file (inventory)

```
allProducts - Notepad
File Edit Format View Help
Book Title : Diary of a wimpy kid
Book Author : jiff kenney
Book Id : 2382
Book Price : 899
Books Quantity : 56
Book ISBN : 238727
Publication Date : 12-4-2023
Book Genre : illustrations
Book Description : story of a teenage school going boy
Book Edition : 3
Book Page Count : 245
=====
Laptop Brand : Lenovo
Laptop Model : thinkpad
Product Id : 12861
Laptop Price : 65000
Laptop Quantity : 4
Processor : i7 8th gen
Operating System : win10
Warranty : 2Year(s)
RAM : 12GB
Storage : 1000GB
Screen Size : 12inch=====
```

Output from customerManager file

```
customerManager - Notepad
File Edit Format View Help
Customer Name : raza
Customer ID : 1234
was registered at 2023-12-18 22:34:13
```

Output on order manager file



```
orderManager - Notepad
File Edit Format View Help
Product Name : Diary of a wimpy kid Product ID : 2382
Total Price : 37758.0was added in inventory at 2023-12-18 22:35:07 and will be delivered within one week
```


Case2:

Code:

Admin login into the system and viewing all the details

```
public class ECommerceManagementSystem {  
  
    public static void main(String[] args) {  
  
        AdminLogin admin = new AdminLogin();  
  
        admin.login();  
  
        AdminControls controller1 = new AdminControls();  
  
        controller1.viewInventory();  
  
        controller1.viewOrderHistory();  
  
    }  
}
```

Output:

```
===== Admin Login =====  
Enter the User Name of Admin : admin  
Enter the password of Admin : admin123  
Incorrect Credentials...  
===== View Inventory =====  
Book Title : it ends with us  
Book Author : collen hoover  
Book Id : 1667  
Book Price : 5656  
Books Quantity : 20  
Book ISBN : 2122323232  
Publication Date : 12-4-19  
Book Genre : romance  
Book Description : romance  
Book Edition : 1  
Book Page Count : 566  
===== View Order History =====  
Product Name : it ends with us Product ID : 1667  
Total Price : 56560.0was added in inventory at 2023-12-18 23:19:00 and will be delivered within one week  
-----  
BUILD SUCCESS  
-----
```