

**GIT Department of Computer Engineering  
CSE 222/505 - Spring 2021**

**Homework 3 # Report**

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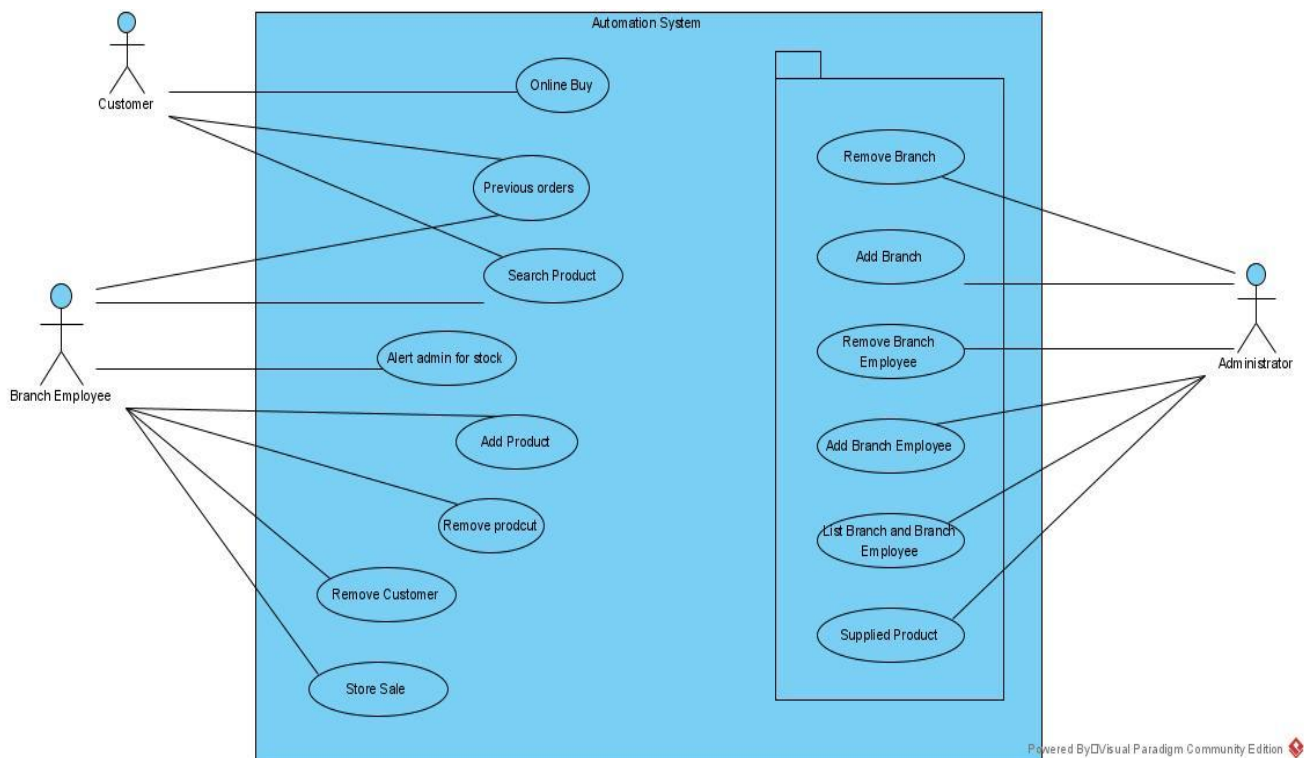
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# 1) SYSTEM REQUIREMENTS

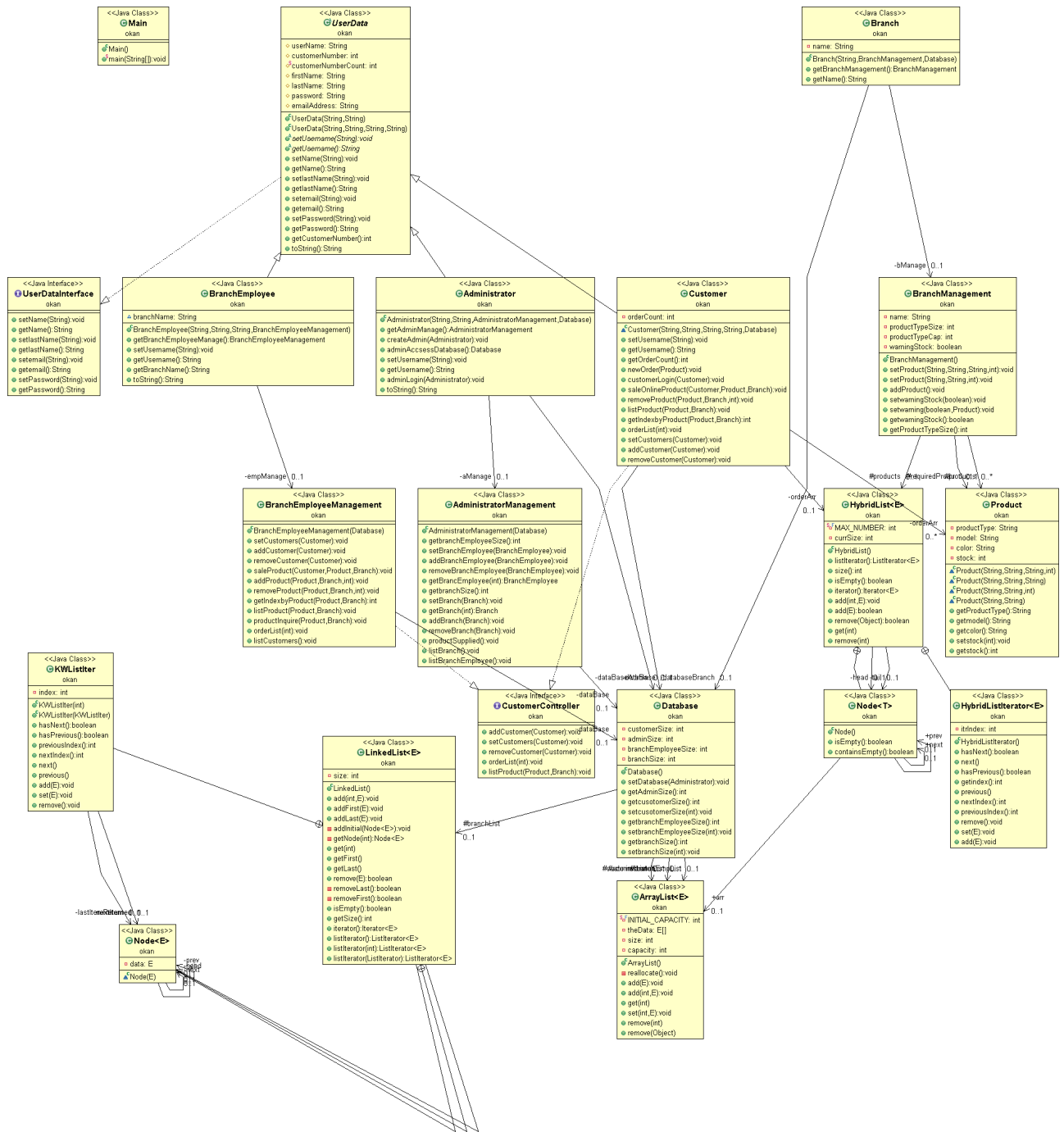
## Functional Requirements:

Admin can add and delete branch and branch employees to the system, and view the branch employee and branch list in the system. If there is a product that needs to be supplied to any branch, it can see and supply it from the system. Branch employees can view customers' orders with their customer numbers, list the products in the store, add and delete products, send stock alerts for required products, make sales from the store, and delete the customer register from the system. The customer who logs into the system can check which product is in which store, see his past orders and online shop from the system. Unlike the 1st assignment, we made the operations more efficient by using the list structure. I keep the admin, customer and branch employee information in arraylist, I keep the branch information in the linkedlist. I keep all the details about the products in the hybrid list class. In this way, when searching for a product or navigating between orders, it will be traversal between shorter distances and it will become more efficient..And thanks to the methods here, I have provided all the comparisons, additions and subtractions related to them. While applying them, I tried to choose the most appropriate methods for efficiency.

## 2)USE CASE DIAGRAMS



### 3) CLASS DIAGRAMS



## 4)PROBLEM SOLUTION APPROACH

Is the problem asking users to authorize and restrict. My primary goal was to establish a connection with classes representing these users. I mean, a branch officer can see the information seen by a different branch officer and make changes on it.

For this, I opened management classes related to manager, employee and branch. And I started these classes on the drive. In each of these classes, I used get methods to access the database class, where information is stored in common. In this way, each user provides the purpose of accessing common data with the related object parameter.

I also had to check the login information and the customers and employees had to have common access to the product. I tried to collect the employee, product and customer information in general there. Thus, the customer can access his own information and the branch employee can also access the information of the customer he/she wants.

## 5)TEST CASES

FOR LOGIN

```
//database class in which the necessary data is stored
Database objDatabase = new Database();

//Administrators will gain access using the parameter in this manager object to have common access.
AdministratorManagement objAdminManagment = new AdministratorManagement(objDatabase);

//I'm creating a new admin object, but I haven't registered to the system yet.
//With database object, common access to data can be provided.
Administrator admin = new Administrator("Alex","123",objAdminManagment,objDatabase);

//I save the admin object whose information I have prepared as an administrator for system.
admin.createAdmin(admin);

//and now I can login successfully with this information.
//Compares the information entered with the information in the data structure and results.
admin.adminLogin(admin);

//****NOTE****//
//If I tried to enter with this information without registering, an error message would be received.
```

For adding branch

```
//admin adds two new branch objects to the system
admin.getAdminManage().addBranch(newBranch);
admin.getAdminManage().addBranch(newBranch2);

//and listing them
admin.getAdminManage().listBranch();
```

To send a warning about missing product to admin

```
//Branch employee reports data on the supply of which product to which branch.
tempProduct = new Product("OfficeDesk","m3","c2");
newBranchEmp3.getBranchEmployeeManage().productInquire(tempProduct, newBranch3);
```

For the customer to shop online

```
//the customer performs online shopping by entering product and branch information.
tempProduct = new Product("MeetingTable","m3","c2");
newCustomer3.saleOnlineProduct(newCustomer3, tempProduct, newBranch);
```

## 6)RUNNING AND RESULTS

```
*****TWO ADMIN REGISTRATION HAS BEEN COMPLETED*****
```

```
Admin registration successful.
```

```
Admin registration successful.
```

```
<<<<<<TEST FOR ADMINISTRATORS>>>>>>
```

```
Admin Login successful.
```

```
*****TEST FOR ADD TWO BRANCHES*****
```

```
Branch successfully added.
```

```
Branch successfully added.
```

```
1. Branch) Ankara
```

```
2. Branch) Bursa
```

```
*****TEST FOR ADD TWO BRANCHES*****
```

```
Branch successfully added.
```

```
Branch successfully added.
```

```
1. Branch) Ankara
```

```
2. Branch) Bursa
```

```
3. Branch) Istanbul
```

```
4. Branch) Izmir
```

```
*****TEST FOR REMOVE ONE BRANCH*****
```

```
1. Branch) Ankara
```

```
2. Branch) Bursa
```

```
3. Branch) Izmir
```

```
*****TEST FOR ADD THREE BRANCH EMPLOYEE AND LIST*****
```

```
Branch Employee successfully added.
```

```
Branch Employee successfully added.
```

```
Branch Employee successfully added.
```

```
1. Branch Employee) Ahmet - Ankara branch
```

```
2. Branch Employee) Mehmet - Bursa branch
```

```
3. Branch Employee) Melike - Izmir branch
```

```
*****TEST FOR REMOVE ONE BRANCH EMPLOYEE AND LIST*****
```

```
Branch Employee successfully removed.
```

```
1. Branch Employee) Mehmet - Bursa branch
```

```
2. Branch Employee) Melike - Izmir branch
```

```
*****TEST FOR SUPPLIED PRODUCT*****
```

```
There is no product to be supplied.
```

# ADMIN-EXCEPTION HANDLING

\*\*\*\*\*TWO ADMIN REGISTRATION HAS BEEN COMPLETED\*\*\*\*\*

Admin registration successful.

Admin registration successful.

<<<<<<TEST FOR ADMINISTRATORS>>>>>>

Admin Login successful.

\*\*\*\*\*TEST FOR ADD TWO BRANCHES\*\*\*\*\*

Branch successfully added.

Branch successfully added. |

1. Branch) Ankara

2. Branch) Bursa

\*\*\*\*\*TEST FOR ADD TWO BRANCHES\*\*\*\*\*

Branch successfully added.

Branch successfully added.

1. Branch) Ankara

2. Branch) Bursa

3. Branch) Istanbul

4. Branch) Izmir

\*\*\*\*\*TEST FOR ADD AN EXISTING BRANCHES\*\*\*\*\*

Already existing Izmir in the set object cannot be added.

\*\*\*\*\*TWO ADMIN REGISTRATION HAS BEEN COMPLETED\*\*\*\*\*

Admin registration successful.

Admin registration successful.

<<<<<<TEST FOR ADMINISTRATORS>>>>>>

Admin Login successful.

\*\*\*\*\*TEST FOR ADD TWO BRANCHES\*\*\*\*\*

Branch successfully added.

Branch successfully added.

1. Branch) Ankara

2. Branch) Bursa

\*\*\*\*\*TEST FOR REMOVE AN NON-EXISTING BRANCHE\*\*\*\*\*

Error : There is no Izmir so it cannot be deleted

|

# BRANCH EMPLOYEE

<<<<<<TEST FOR BRANCH EMPLOYEE>>>>>>

\*\*\*\*\*TEST FOR SEARCH PRODUCT\*\*\*\*\*

Branch : Bursa  
Product Type : Chair  
Product Model : m1  
Product Color: c1  
Product Stock : 5

\*\*\*\*\*TEST FOR STORE SALE TWO PRODUCT NON-MEMEBER CUSTOMER \*\*\*\*\*

You have successfully registered, your customer number is 100  
PRODUCT REMOVE SUCCESSFUL  
The product has been successfully sold.  
PRODUCT REMOVE SUCCESSFUL  
The product has been successfully sold.

\*\*\*\*\*TEST FOR SEARCH PRODUCT AGAIN\*\*\*\*\*

Branch : Bursa  
Product Type : Chair  
Product Model : m1  
Product Color: c1  
Product Stock : 4

Branch : Bursa  
Product Type : BookCases  
Product Model : m1  
Product Stock : 4

\*\*\*\*\*TEST FOR BEFORE REMOVE PRODUCT\*\*\*\*\*

Branch : Istanbul  
Product Type : OfficeDesk  
Product Model : m3  
Product Color: c2  
Product Stock : 5



```
*****TEST FOR REMOVE PRODUCT*****
PRODUCT REMOVE SUCCESSFUL

Branch : Istanbul
Product Type : OfficeDesk
Product Model : m3
Product Color: c2
Product Stock : 2

*****TEST FOR ADD PRODUCT*****
PRODUCT ADD SUCCESSFUL

Branch : Istanbul
Product Type : OfficeDesk
Product Model : m3
Product Color: c2
Product Stock : 3

*****TEST FOR PREVIOUS ORDERS OF THE CUSTOMER WITH THE CUSTOMER NUMBER ENTERED*****
Chair m1 c1
BookCases m1

*****STOCK OF ITEMS BEFORE ADMIN IS ALERTED*****

Branch : Istanbul
Product Type : OfficeDesk
Product Model : m3
Product Color: c2
Product Stock : 3

*****STOCK INCREASED BY ADMIN.*****
The product has been successfully supplied.

Branch : Istanbul
Product Type : OfficeDesk
Product Model : m3
Product Color: c2
Product Stock : 5
```

## BRANCH EMPLOYEE-Exception Handling

```
*****TEST FOR SEARCH PRODUCT*****

Branch : Bursa
Product Type : Chair
Product Model : m1
Product Color: c1
Product Stock : 5

*****TEST FOR STORE SALE TWO PRODUCT NON-MEMEBER CUSTOMER *****
You have successfully registered, your customer number is 100
PRODUCT REMOVE SUCCESSFUL
The product has been successfully sold.
PRODUCT REMOVE SUCCESSFUL
The product has been successfully sold.

*****ADD A REGISTERED CUSTOMER TO THE SYSTEM*****
Error : This customer is available
```

# CUSTOMER

<<<<<<TEST FOR CUSTOMERS>>>>>>

E-mail or password is wrong.

\*\*\*\*\*TEST FOR CUSTOMER REGISTERED\*\*\*\*\*

You have successfully registered, your customer number is 101  
Customer Login successful.

\*\*\*\*\*TEST FOR LIST REGISTERED CUSTOMERS\*\*\*\*\*

Okan Torun , torun.okn@gmail.com ,CustomerNumber : 100  
Peter Bishop , p.bishop@gmail.com ,CustomerNumber : 101

\*\*\*\*\*TEST FOR BRANCH EMPLOYEES DELETING ONE CUSTOMER FROM THE SYSTEM AND LIST\*\*\*\*\*

Okan Torun , torun.okn@gmail.com ,CustomerNumber : 100

\*\*\*\*\*TEST FOR CUSTOMER SEARCH PRODUCT\*\*\*\*\*

Branch : Ankara  
Product Type : OfficeDesk  
Product Model : m3  
Product Color: c2

\*\*\*\*\*CUSTOMER REGISTERS TO THE SYSTEM\*\*\*\*\*

You have successfully registered, your customer number is 102

\*\*\*\*\*CUSTOMER BUYS ONLINE PRODUCTS.\*\*\*\*\*

The product has been successfully sold.

\*\*\*\*\*TEST FOR SEARCH THE PREVIOUS ORDERS.\*\*\*\*\*

Customer number 102  
MeetingTable m3 c2

\*\*\*\*\*TEST FOR SALE PRODUCT AGAIN AND SEARCH PREVIOUS ORDERS SAME CUSTOMER\*\*\*\*\*

The product has been successfully sold.  
Customer number 102  
MeetingTable m3 c2  
BookCases m3 c2

\*\*\*\*\*TEST FOR SEARCH PREVIOUS ORDERS ANOTHER CUSTOMER\*\*\*\*\*

Customer number 100  
Chair m1 c1  
BookCases m1