GTU Department of Computer Engineering
CSE 222/505 - Spring 2021
Homework #1 Report

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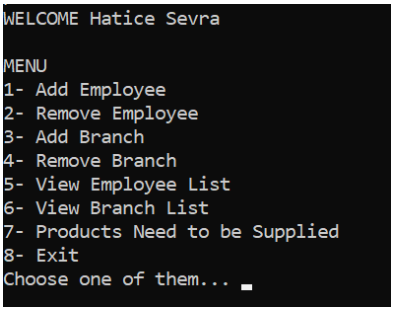
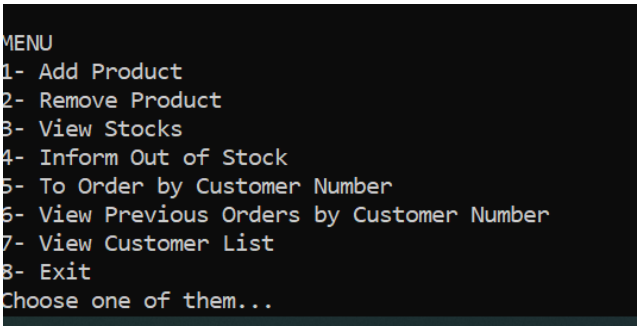
1. SYSTEM REQUIREMENTS

- At least 1 **admin** must registers to the system first. Then Admin logs into the system with his/her mail and password. (The logIn function used here belongs to the CompanySystem interface. The function was overridden in 3 classes). If the login information is correct, the Admin menu is printed. Admin can choose one of them and do it.



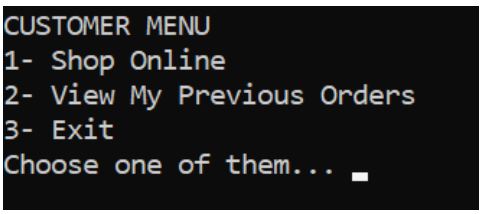
- For Add/Remove Employee, admin must enter 'Branch', 'Name', 'Surname', 'Salary', 'mail', 'Password' informations of employee. For Add Branch, admin must enter just 'Branch Name'.
- Remove Employee and Remove Branch operations are done with index.
- Other operations take place automatically when selected and output appears.

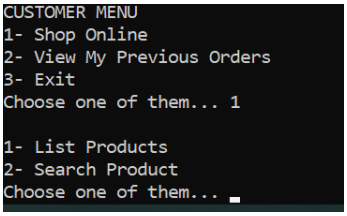


- **Employee** must enter his e-mail and password to enter the system. This part is located in the logIn function, overridden. However, since the customer record is made by admin, I commented this part for the simplicity of the test. Employee directly accesses the employee menu.

- Employee chooses the type (Office Chair, Library…), model, and color of the product one after the other from the menus that run in the Add Product operation. These menus are specific to the product. There might be different color options for different products.
- For ordering, employee first enters the customer number. Then it selects the product as in the 'Add Product' operation. Finally, he/she creates the order by entering the customer's phone and address information into the system.
- If employee wants to view a customer's "previous order list", it is sufficient to enter a customer number. Then the information is listed.
- Removing done by index, others done automatically and outputs printed.

- If the **customer** has not registered themselves in the system before, they sign up by entering "name, surname, mail and password ". Then she/he can 'log in' with this information. Then the shopping or previous orders menu appears. If she wants to shop online, there are options to select the product from the 'lists' or to find it by 'searching'.

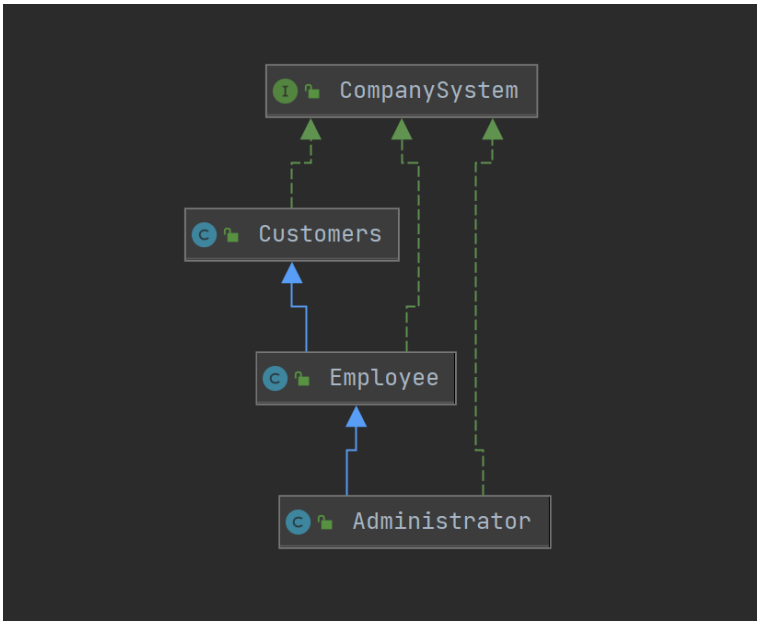




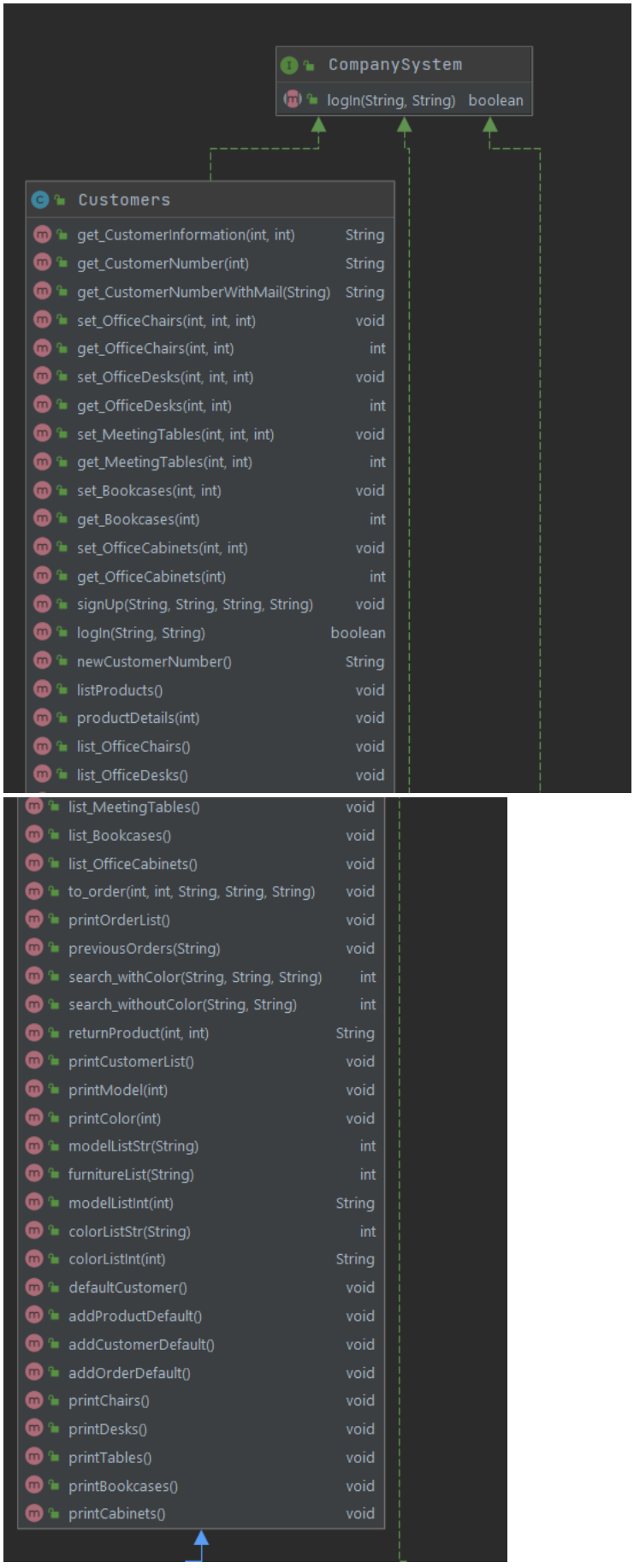
- The customer can view his/her previous orders by selecting 2 from the Customer Menu.
- For Shopping: The ordering from the list is the same as employee's order creation process. The user determines the features of the product from the menus one by one, creates the order by entering the phone and address information.
- In the search process, the user creates the order by entering the name, model, and color of the product on her/his own keyboard.

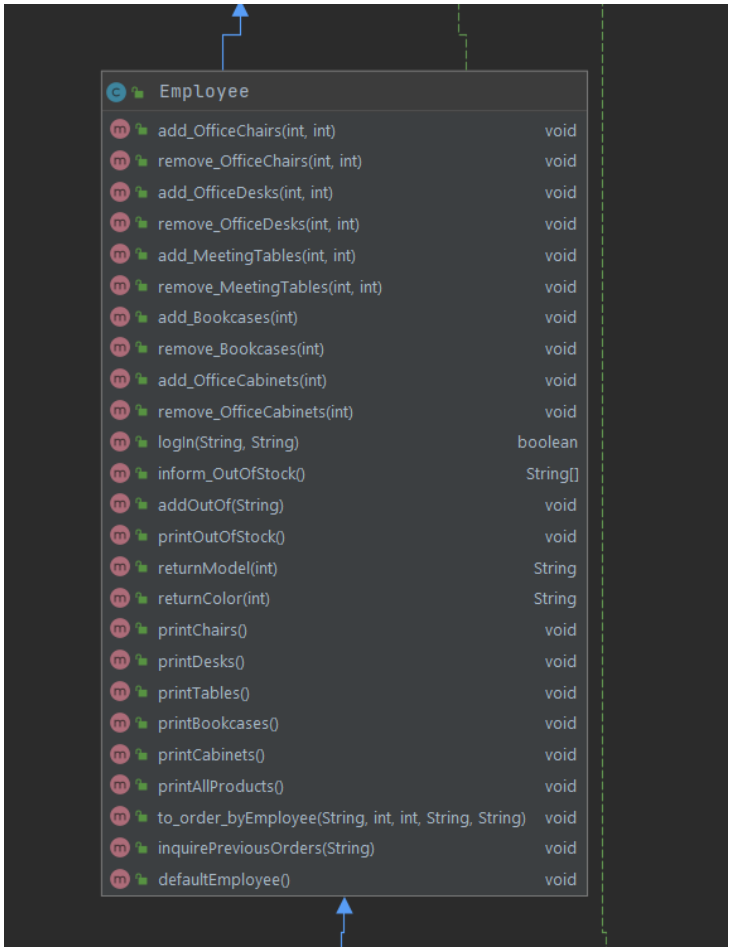
2. USE CASE AND CLASS DIAGRAMS

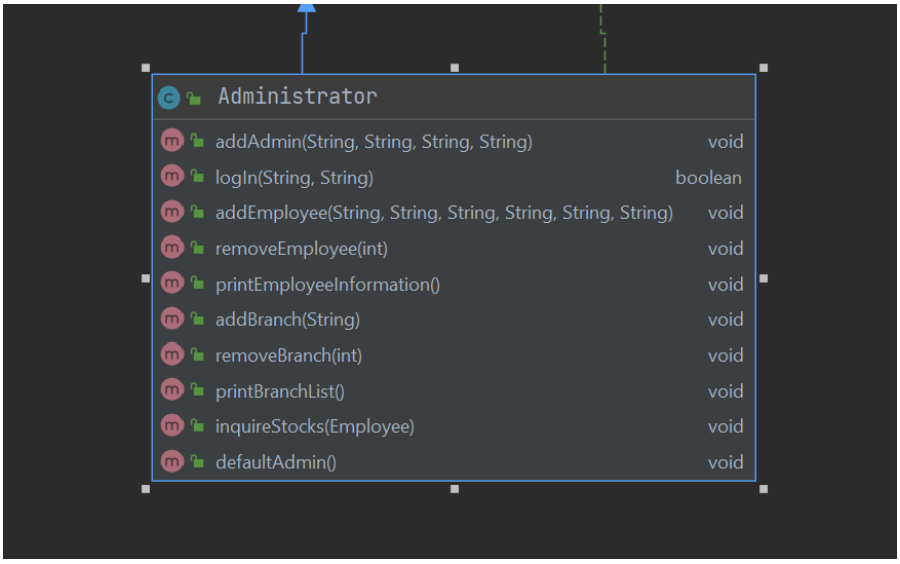
BASIC UML DIAGRAM

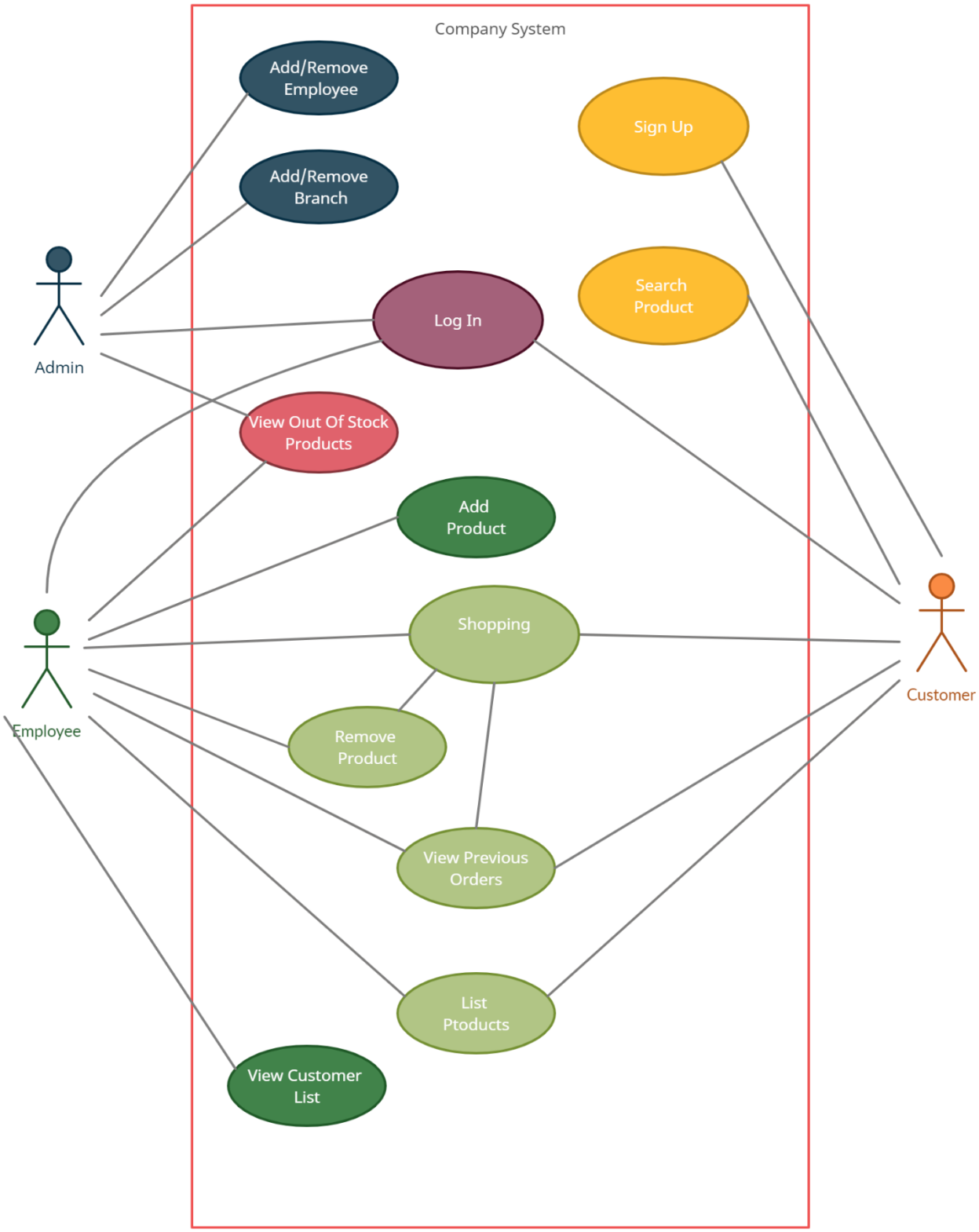


DETAILS OF UML DIAGRAM


CompanySystem
logIn(String, String) boolean
Customers
get_CustomerInformation(int, int) String
get_CustomerNumber(int) String
get_CustomerNumberWithMail(String) String
set_OfficeChairs(int, int, int) void
get_OfficeChairs(int, int) int
set_OfficeDesks(int, int, int) void
get_OfficeDesks(int, int) int
set_MeetingTables(int, int, int) void
get_MeetingTables(int, int) int
set_Bookcases(int, int) void
get_Bookcases(int) int
set_OfficeCabinets(int, int) void
get_OfficeCabinets(int) int
signUp(String, String, String, String) void
logIn(String, String) boolean
newCustomerNumber() String
listProducts() void
productDetails(int) void
list_OfficeChairs() void
list_OfficeDesks() void
list_MeetingTables() void
list_Bookcases() void
list_OfficeCabinets() void
to_order(int, int, String, String, String) void
printOrderList() void
previousOrders(String) void
search_withColor(String, String, String) int
search_withoutColor(String, String) int
returnProduct(int, int) String
printCustomerList() void
printModel(int) void
printColor(int) void
modelListStr(String) int
furnitureList(String) int
modelListInt(int) String
colorListStr(String) int
colorListInt(int) String
defaultCustomer() void
addProductDefault() void
addCustomerDefault() void
addOrderDefault() void
printChairs() void
printDesks() void
printTables() void
printBookcases() void
printCabinets() void


Employee
add_OfficeChairs(int, int) void
remove_OfficeChairs(int, int) void
add_OfficeDesks(int, int) void
remove_OfficeDesks(int, int) void
add_MeetingTables(int, int) void
remove_MeetingTables(int, int) void
add_Bookcases(int) void
remove_Bookcases(int) void
add_OfficeCabinets(int) void
remove_OfficeCabinets(int) void
logIn(String, String) boolean
inform_OutOfStock() String[]
addOutOf(String) void
printOutOfStock() void
returnModel(int) String
returnColor(int) String
printChairs() void
printDesks() void
printTables() void
printBookcases() void
printCabinets() void
printAllProducts() void
to_order_byEmployee(String, int, int, String, String) void
inquirePreviousOrders(String) void
defaultEmployee() void


Administrator
addAdmin(String, String, String, String) void
logIn(String, String) boolean
addEmployee(String, String, String, String, String, String) void
removeEmployee(int) void
printEmployeeInformation() void
addBranch(String) void
removeBranch(int) void
printBranchList() void
inquireStocks(Employee) void
defaultAdmin() void


Company System
Add/Remove Employee
Add/Remove Branch
Sign Up
Search Product
Log In
Admin
View Oiut Of Stock Products
Add Product
Shopping
Employee
Customer
Remove Product
View Previous Orders
List Ptoducts
View Customer List

3. TEST CASES AND RUNNING RESULTS

Case 1: Register admin, and try to log in with valid mail and password.

```
Enter Admin Informations
Name: Hatice Sevra
Surname: Genç
E-mail: haticesevragenc@gmail.com
Password: 999999
```

```
WELCOME Hatice Sevra

MENU
1- Add Employee
2- Remove Employee
3- Add Branch
4- Remove Branch
5- View Employee List
6- View Branch List
7- Products Need to be Supplied
8- Exit
Choose one of them...
```

```
Enter informations requested below to log in as Administrator
e-mail:  haticesevragenc@gmail.com
password:  999999
```

Case 2: Try to log in invalid informations

```
Enter informations requested below to log in as Administrator
e-mail:  zeynepkorkmaz@gmail.com
password:  343435

Invalid mail or password
```

Case 3: Log in as admin and add employee

```
Choose one of them... 1
Enter Employee Informations
Branch: Kadıköy
Name: Elif
Surname: Boz
Salary: 8300
E-mail: elifboz@gmail.com
Password: 232323
```

```
EMPLOYEE LIST
No      Branch          Name            Surname         Salary          Mail
1       Beşiktaş        Zeynep          Kartal          8500    zkartal@gmail.com
2       Sarıyer         Barış           Tatar           8000    baristatar@gmail.com
3       Üsküdar         Mehmet          Gündüz          8300    mgunduz@gmail.com
```

```
Choose one of them... 5


EMPLOYEE LIST
No      Branch          Name            Surname         Salary          Mail
1       Beşiktaş        Zeynep          Kartal          8500    zkartal@gmail.com
2       Sarıyer         Barış           Tatar           8000    baristatar@gmail.com
3       Üsküdar         Mehmet          Gündüz          8300    mgunduz@gmail.com
4       Kadıköy         Elif            Boz             8300    elifboz@gmail.com

MENU
```

Case 4: Remove Employee

```
EMPLOYEE LIST
No      Branch          Name            Surname         Salary          Mail
1       Beşiktaş        Zeynep          Kartal          8500    zkartal@gmail.com
2       Sarıyer         Barış           Tatar           8000    baristatar@gmail.com
3       Üsküdar         Mehmet          Gündüz          8300    mgunduz@gmail.com
Enter the index of employee you want to remove from the list...
2
```

```
-Updated-

EMPLOYEE LIST
No      Branch          Name            Surname         Salary          Mail
1       Beşiktaş        Zeynep          Kartal          8500    zkartal@gmail.com
2       Üsküdar         Mehmet          Gündüz          8300    mgunduz@gmail.com

MENU
```

Case 5: Add Branch

```
MENU
1- Add Employee
2- Remove Employee
3- Add Branch
4- Remove Branch
5- View Employee List
6- View Branch List
7- Products Need to be Supplied
8- Exit
Choose one of them... 3
Enter the branch name you want to add...
Fatih
```

```
-Updated-
BRANCH LIST
1- Sarıyer
2- Üsküdar
3- Kadıköy
4- Beşiktaş
5- Fatih
```

Case 6: Remove Branch

```
Choose one of them... 4
BRANCH LIST
1- Sarıyer
2- Üsküdar
3- Kadıköy
4- Beşiktaş
Enter the index of branch you want to remove from the list...
3

-Updated-
BRANCH LIST
1- Sarıyer
2- Üsküdar
3- Beşiktaş
```

Case 7: Products need to supplied

```
Choose one of them... 7

OUT OF PRODUCTS LIST
Model 1 - Black  Office Chair
Model 2 - Black  Office Chair
Model 3 - Black  Office Chair
Model 4 - Black  Office Chair
Model 5 - Black  Office Chair
Model 6 - Black  Office Chair
Model 7 - Black  Office Chair

7 products in total must be supplied.
```

Case 8: Employee adds “Black, Model 3, Office Chair” (Removing process is same)

```
PRODUCT MENU
1- Office Chairs
2- Office Desks
3- Meeting Tables
4- Bookcases
5- Office Cabinets
Choose one of them... 1

Choose Model
1- Model 1 -
2- Model 2 -
3- Model 3 -
4- Model 4 -
5- Model 5 -
6- Model 6 -
7- Model 7 -
3

Choose Color
1- Black
2- White
3- Brown
4- Grey
5- Red
1

OFFICE CHAIRS STOCK
1- Model 1      Black ->0|2- Model 1    White ->1|3- Model 1    Brown ->1|4- Model 1    Grey  ->1|5- Model 1    Red   ->1|
6- Model 2      Black ->0|7- Model 2    White ->1|8- Model 2    Brown ->1|9- Model 2    Grey  ->1|10- Model 2   Red   ->1|
11- Model 3     Black ->1|12- Model 3   White ->1|13- Model 3   Brown ->1|14- Model 3   Grey  ->1|15- Model 3   Red   ->1|
16- Model 4     Black ->0|17- Model 4   White ->1|18- Model 4   Brown ->1|19- Model 4   Grey  ->1|20- Model 4   Red   ->1|
21- Model 5     Black ->0|22- Model 5   White ->1|23- Model 5   Brown ->1|24- Model 5   Grey  ->1|25- Model 5   Red   ->1|
26- Model 6     Black ->0|27- Model 6   White ->1|28- Model 6   Brown ->1|29- Model 6   Grey  ->1|30- Model 6   Red   ->1|
31- Model 7     Black ->0|32- Model 7   White ->1|33- Model 7   Brown ->1|34- Model 7   Grey  ->1|35- Model 7   Red   ->1|

MENU
```

```
OFFICE CHAIRS STOCK
1- Model 1      Black ->0|2- Model 1    White ->1|3- Model 1    Brown ->1|4- Model 1    Grey  ->1|5- Model 1    Red   ->1|
6- Model 2      Black ->0|7- Model 2    White ->1|8- Model 2    Brown ->1|9- Model 2    Grey  ->1|10- Model 2   Red   ->1|
11- Model 3     Black ->0|12- Model 3   White ->1|13- Model 3   Brown ->1|14- Model 3   Grey  ->1|15- Model 3   Red   ->1|
16- Model 4     Black ->0|17- Model 4   White ->1|18- Model 4   Brown ->1|19- Model 4   Grey  ->1|20- Model 4   Red   ->1|
21- Model 5     Black ->0|22- Model 5   White ->1|23- Model 5   Brown ->1|24- Model 5   Grey  ->1|25- Model 5   Red   ->1|
26- Model 6     Black ->0|27- Model 6   White ->1|28- Model 6   Brown ->1|29- Model 6   Grey  ->1|30- Model 6   Red   ->1|
31- Model 7     Black ->0|32- Model 7   White ->1|33- Model 7   Brown ->1|34- Model 7   Grey  ->1|35- Model 7   Red   ->1|
```

Case 9: Employee create an order with ‘2231’ customer number

```
Choose one of them... 6
No      Name    Surname Mail
3396    Ceyda   Özbey   ceydaozbey@gmail.com

4599    Selin   Aksoy   selinaksoy@gmail.com

2531    Fatih   Keklik  fatihkeklik@gmail.com

2231    Gökhan  Yıldız  gokhanyildiz@gmail.com

2752    Elif    Ceyhan  elifceyhan@gmail.com

Enter the customer number...
2231

Previous orders



2231    5076543232      Kalayci Mahallesi Karaçay Sokak No:3/4 Çengelköy/İstanbul       Office Desk - Model 5 - White

MENU
```

Case 10: Customer try sign up to system

```
MENU
1- Log in
2- Sign Up
3- Exit
Choose one of them... 2

Please enter the information requested below for SIGN UP
Name:  Arda
Surname:  Ulusoy
e-mail:  ardaulusoy@gmail.com
password:  456789
```

```
Please enter the information requested below for LOG IN
e-mail:  ardaulusoy@gmail.com
password:  456789

WELCOME Arda

CUSTOMER MENU
1- Shop Online
2- View My Previous Orders
3- Exit
Choose one of them...
```

Case 11: Create new order then previous orders

```
PRODUCTS
1- Office Chairs
2- Office Desks
3- Meeting Tables
4- Bookcases
5- Office Cabinets
Choose one of them... 4

BOOKCASE MODELS
No      Model
--      ------
1       Model 1
2       Model 2
3       Model 3
4       Model 4
5       Model 5
6       Model 6
7       Model 7
8       Model 8
9       Model 9
10      Model10
11      Model11
12      Model12
Enter the index of product you want to buy...7
Enter the phone number of customer ...
5061237645
Enter the address of customer...
Kayabaşı Mahallesi Turan Sokak No:5/6 Poyrazköy/İstanbul
```

```
CUSTOMER MENU
1- Shop Online
2- View My Previous Orders
3- Exit
Choose one of them... 2

Previous orders


3240    5061237645      Kayabaşı Mahallesi Turan Sokak No:5/6 Poyrazköy/İstanbul        Bookcase - Model 7 -
```

Case 12: Customer search Model 3 Bookcase

```
1- List Products
2- Search Product
Choose one of them... 2
Enter the name of the product...
Bookcase
Enter the model of the product...
Model 3
Aradığınız üründen 1 adet bulunmaktadır.
```

PROBLEM SOLUTION APPROACH

I have created three different classes for Customers Administrator and Employee. These classes are implementing the CompanySystem interface. I ensured the flow of information by creating Administrator-> Employee-> Customer hierarchy among them.