GIT Department of Computer Engineering
CSE 222/505 - Spring 2020
Homework 1 Report

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1. SYSTEM REQUIREMENTS

First, an admin with the name root and password 1 has been defined.
Then the user was asked which user type he wanted to login with and asked the id and password.
Whether the id and password are registered was checked. If it is registered, the menu of that user type is pressed on the screen.

If user logged in as <u>administrator</u>, the things user(administrator type) can do are as follows.

1. Add branch
   - A branch was created with the information entered by the user and registered in the branch array.

   - In order to keep the branch records, *updateToBranchArray(branchArray, branch, "add");* method was created and an branch array, instance and work to be done were given as parameters.

2. Remove branch
   - A branch was removed in branch array with the information entered by the user.

   - In order to keep the branch records, *updateToBranchArray(branchArray, branch, "remove");* method was created and an branch array, instance and work to be done were given as parameters.

3. Add branch employee
   - A branch employee was created with the information entered by the user and registered in the branch employee array.

   - Branch employee was kept in the **Branch class,** he/she was working in and access to the branch was required before adding. Branch was found with the name parameter given to the *findBranch(branchArray, branchName);* method and then called *addToArray(User _array)* method. In this method, since the parameter comes in base class (user) type, firstly, type control was made and branch employee was registered by providing the necessary if condition.

4. Remove branch employee
   - A branch employee was removed with the information entered by the user.

- Branch employee was kept in the **Branch class,** he/she was working in and access to the branch was required before adding. Branch was found with the name parameter given to the *findBranch(branchArray, branchName);* method and then called *removeToArray(User _array)* method. In this method, since the parameter comes in base class (user) type, firstly, type control was made and branch employee was removed by providing the necessary if condition.

5. Add transportation personnel
   - A transportation personnel was created with the information entered by the user and registered in the transportation personnel array.

   - Transportation personnel was kept in the **Branch class,** he/she was working in and access to the branch was required before adding. Branch was found with the name parameter given to the *findBranch(branchArray, branchName);* method and then called *addToArray(User _array)* method. In this method, since the parameter comes in base class (user) type, firstly, type control was made and transportation personnel was registered by providing the necessary if condition.

6. Remove transportation personnel
   - A transportation personnel was removed with the information entered by the user.

   - Transportation personnel was kept in the **Branch class,** he/she was working in and access to the branch was required before adding. Branch was found with the name parameter given to the *findBranch(branchArray, branchName);* method and then called *removeToArray(User _array)* method. In this method, since the parameter comes in base class (user) type, firstly, type control was made and transportation personnel was removed by providing the necessary if condition.

7. Change user
   - Exit the administrator type and displayed the user type menu.

8. Exit
   - Finished the program.

If user logged in as <u>branch employee</u> , the things user(branch employee type) can do are as follows.

1. Enter information about the shipments and sender and receiver name
    - A shipment instance was created with the information entered by the user and registered in the shipment array.

    - In order to keep the shipment records, *addShipment(shipmentsArray, shipment);* method was created and an shipment array, instance were given as parameters.

2. Remove shipment
    - A shipment instance was removed in the shipment array with the information entered by the user.

    - Since the sample of that shipment was requested in the *removeShipment(shipmentsArray, shipment);* method used to delete the shipment, the shipment sample was found with *findShipment*(shipmentsArray, trackingNumber); method and the tracking number received from the user.

3. Add users (customers) to the system.
    - A customer instance was created with the information entered by the user and registered in the shipment array.

    - In order to keep the customer records, *updateToUserArray(userArray, customer, "add");* method was created and an user array, instance and work to be done were given as parameters.

4. Remove users (customers) to the system
    - A customer instance was removed with the information entered by the user.

    - In order to keep the customer records, *updateToUserArray(userArray, customer, "remove");* method was created and an user array, instance and work to be done were given as parameters.

5. Package current status is entered into the system
    - A current status of shipment was added with the information entered by the user.

- Current status was kept in the **Shipment class,** he/she was working in and access to the instance was required before adding. Shipment was found with the tracking number given to the *findShipment(shipmentsArray, trackingNumber);* method and then called *setStatus(status);* in Shipment class method.

6. Change user
   - Exit the administrator type and displayed the user type menu.

7. Exit
   - Finished the program.

If user logged in as <u>transportation personnel</u> , the things user(transportation personnel type) can do are as follows.

1. Update package status
   - A current status of shipment was updated with the information entered by the user.

   - Current status was kept in the **Shipment class,** he/she was working in and access to the instance was required before adding. Shipment was found with the tracking number given to the *findShipment(shipmentsArray, trackingNumber);* method and then called *setStatus(status);* in Shipment class method.

2. Change user
   - Exit the administrator type and displayed the user type menu.

3. Exit
   - Finished the program.

If user logged in as <u>customer</u> , the things user(customer type) can do are as follows.

1. Check your package information
   - A information of shipment was displayed with the information entered(tracking number) by the user.

   - Information of shipment (receiver, senderi status, info) was kept in the **Shipment class,** he/she was working in and access to the instance was required before adding. Shipment was found with the tracking number given to the *findShipment(shipmentsArray, trackingNumber);* method and then called getSender(), getReceiver(),getStatus(), getInfo() and displayed.
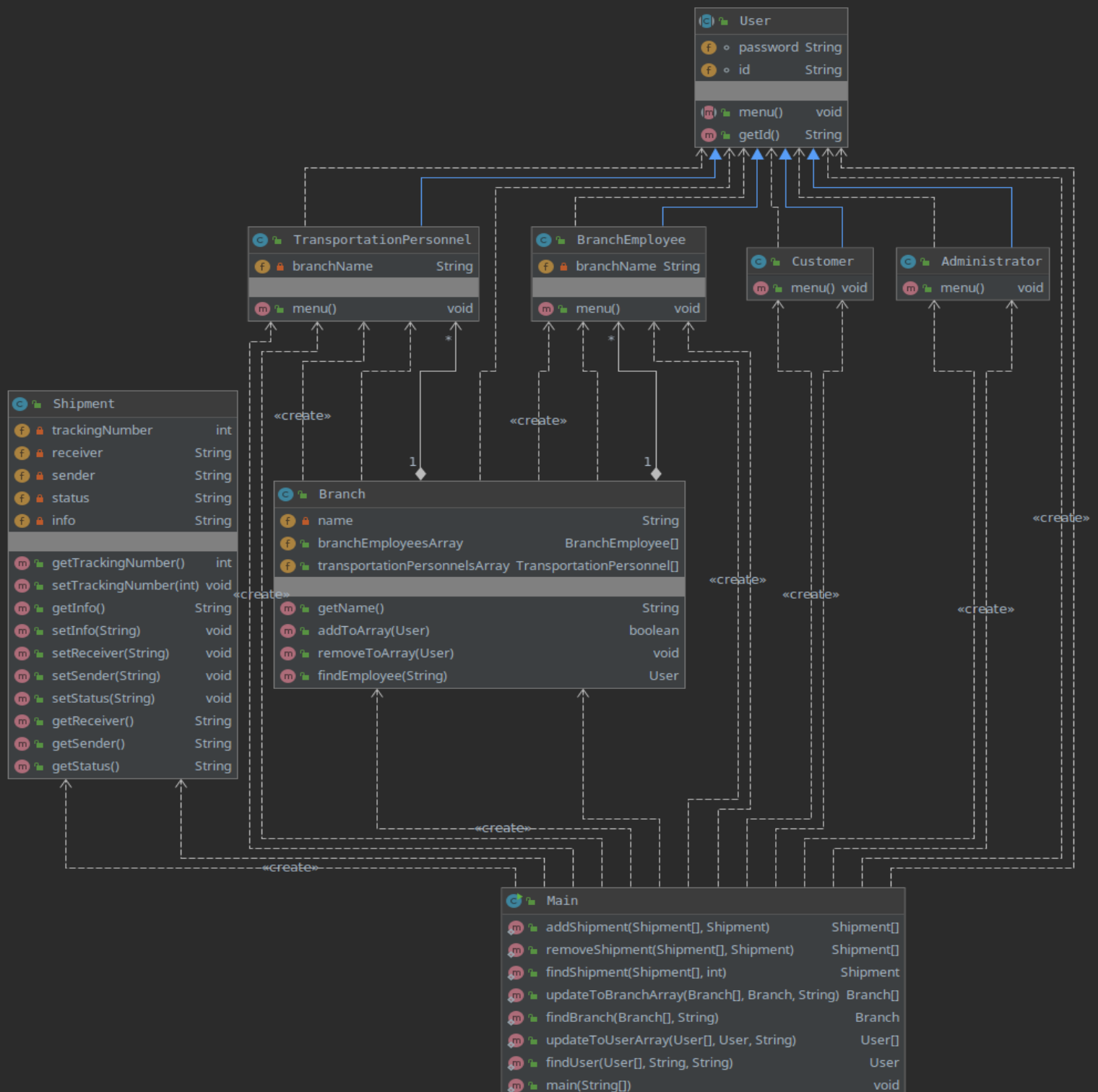
2. Change User
   - Exit the administrator type and displayed the user type menu.

3. Exit
   - Finished the program.

2. CLASS DIAGRAM

3. PROBLEM SOLUTION APPROACH

To access the system and distinguish between different users, id and password were required.
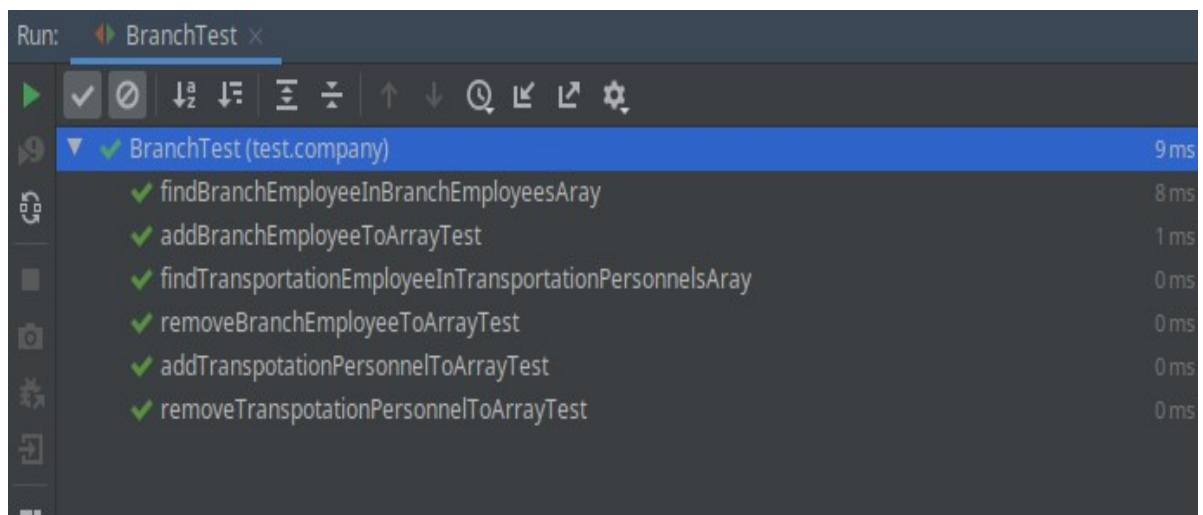
The common features of the users were gathered into base class, and then their different roles were determined in their own classes.

A loop was created to ensure the transition between users before the program was closed. With this cycle, each type is enabled to perform its own operations. These operations were carried out with inputs received from him at the request of the user.
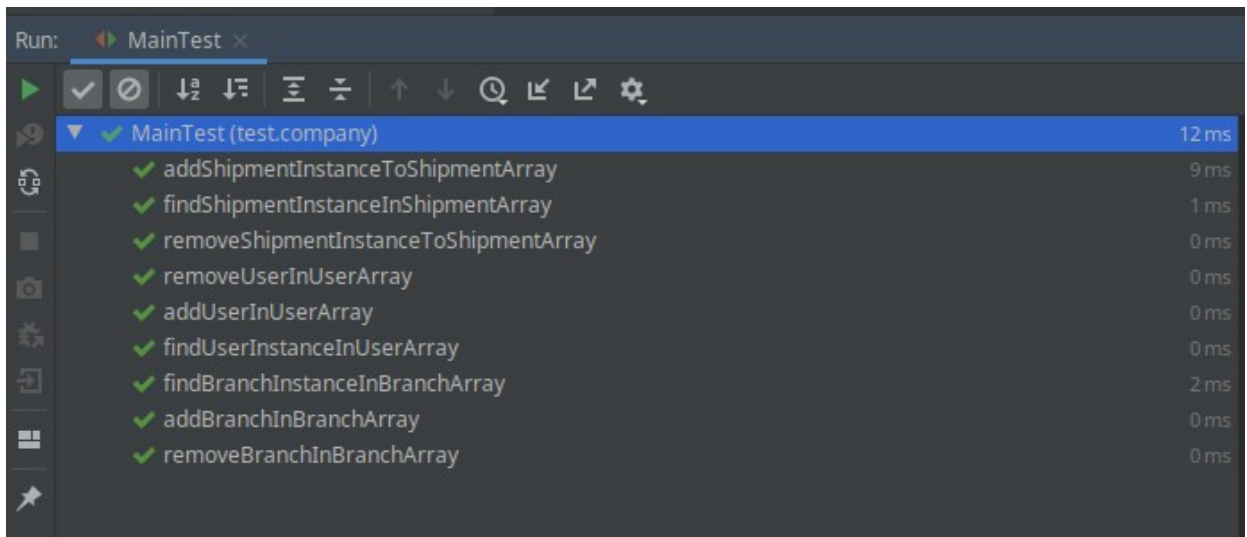
4. TEST CASES

(1) BranchTest

- addBranchEmployeeToArrayTest

- addTranspotationPersonnelToArrayTest()

- removeBranchEmployeeToArrayTest()

- removeBranchEmployeeToArrayTest()

- findBranchEmployeeInBranchEmployeesAray()

- findTransportationEmployeeInTransportationPersonnelsAray()

(2) MainTes

- findUserInstanceInUserArray()

- removeUserInUserArray()

- addUserInUserArray()

- findBranchInstanceInBranchArray()

- removeBranchInBranchArray()

- addBranchInBranchArray()

- findShipmentInstanceInShipmentArray()

- removeShipmentInstanceToShipmentArray()

- addShipmentInstanceToShipmentArray()

Run: MainTest

MainTest (test.company) — 12 ms
- addShipmentInstanceToShipmentArray — 9 ms
- findShipmentInstanceInShipmentArray — 1 ms
- removeShipmentInstanceToShipmentArray — 0 ms
- removeUserInUserArray — 0 ms
- addUserInUserArray — 0 ms
- findUserInstanceInUserArray — 0 ms
- findBranchInstanceInBranchArray — 2 ms
- addBranchInBranchArray — 0 ms
- removeBranchInBranchArray — 0 ms

5. RUNNING AND RESULTS

When id was wrong, gave the error, after entered.

```
1. Login as Administrator
2. Login as Bracnh Employee
3. Login as Transportation Personnel
4. Login as Customer
-1. Exit
1
Please enter your ID :root
Please enter your password :3
No User can be found!
1. Login as Administrator
2. Login as Bracnh Employee
3. Login as Transportation Personnel
4. Login as Customer
-1. Exit
1
Please enter your ID :root
Please enter your password :1
1. Add branch
2. Remove branch
3. Add branch employee
4. Remove branch employee
5. Add transportation personnel
6. Remove transportation personnel
0. Change user
-1. Exit
```

Added branch, then removed, after tried to add branch employee.

```
Please enter the branch name :maltepe
Added!
1. Add branch
2. Remove branch
3. Add branch employee
4. Remove branch employee
5. Add transportation personnel
6. Remove transportation personnel
0. Change user
-1. Exit
2
Please enter the branch name :maltepe
Removed!
1. Add branch
2. Remove branch
3. Add branch employee
4. Remove branch employee
5. Add transportation personnel
6. Remove transportation personnel
0. Change user
-1. Exit
3
Please enter the branch employee name :esra
Please enter the branch name :maltepe
No branch registered with this name can be found
1. Add branch
2. Remove branch
3. Add branch employee
4. Remove branch employee
5. Add transportation personnel
```

Then added branch again and added branch employee. After logined with branch employee.

```
Please enter the branch employee name :esra
Please enter the branch name :maltepe
Added
1. Add branch
2. Remove branch
3. Add branch employee
4. Remove branch employee
5. Add transportation personnel
6. Remove transportation personnel
0. Change user
-1. Exit
0
1. Login as Administrator
2. Login as Bracnh Employee
3. Login as Transportation Personnel
4. Login as Customer
-1. Exit
2
Please enter your ID :esra
Please enter your password :maltepe2020BE
1. Enter information about the shipments and sender and receiver name
2. Remove shipment
3. Add users (customers) to the system.
4. Remove users (customers) to the system
5. Package current status is entered into the system
0. Change user
-1. Exit
|
```

Branch employee added shipment and tracking number displayed,then added customer gave name and password.

```
1
Please enter the receiver name :ali
Please enter the sender name :fatma
Please enter the information for shipment :box
118913
Added
1. Enter information about the shipments and sender and receiver name
2. Remove shipment
3. Add users (customers) to the system.
4. Remove users (customers) to the system
5. Package current status is entered into the system
0. Change user
-1. Exit
3
Please enter customer name:ali
Please enter customer password:alil
Added
```

User type changed and customer looked package informations.

```
5. Package current status is entered into the system
0. Change user
-1. Exit
0

1. Login as Administrator
2. Login as Bracnh Employee
3. Login as Transportation Personnel
4. Login as Customer
-1. Exit
4

Please enter your ID :ali
Please enter your password :ali1
1.Check your package information :
0. Change user
-1. Exit
1

Please enter the tracking number :118913
fatma
ali
Your package set out to be delivered.
box
1.Check your package information :
0. Change user
-1. Exit
```

Administrator added transportation personnel and personnel updated status..

```
Please enter the transportation personnel name :osman
Please enter the branch name :Added
1. Add branch
2. Remove branch
3. Add branch employee
4. Remove branch employee
5. Add transportation personnel
6. Remove transportation personnel
0. Change user
-1. Exit
0
1. Login as Administrator
2. Login as Bracnh Employee
3. Login as Transportation Personnel
4. Login as Customer
-1. Exit
3
Please enter your ID :osman
Please enter your password :maltepe2020TP
1. Update package status
0. Change user
-1. Exit
1
Please enter the tracking number :118913
Updated
1. Update package status
0. Change user
-1. Exit
```

Current status of customer's package has been updated.

```
Please enter your ID :118913
Please enter your password :64
No User can be found!
1. Login as Administrator
2. Login as Bracnh Employee
3. Login as Transportation Personnel
4. Login as Customer
-1. Exit
4
Please enter your ID :ali
Please enter your password :ali1
1.Check your package information :
0. Change user
-1. Exit
1
Please enter the tracking number :118913
fatma
ali
Teslim edildi
box
1.Check your package information :
0. Change user
-1. Exit
```

Deleted shipment and customer by branch employeee

```
Please enter your ID :esra
Please enter your password :maltepe2020BE
1. Enter information about the shipments and sender and receiver name
2. Remove shipment
3. Add users (customers) to the system.
4. Remove users (customers) to the system
5. Package current status is entered into the system
0. Change user
-1. Exit
2
Please enter the tracking number:118913
Removed
1. Enter information about the shipments and sender and receiver name
2. Remove shipment
3. Add users (customers) to the system.
4. Remove users (customers) to the system
5. Package current status is entered into the system
0. Change user
-1. Exit
4
Please enter customer name:ali
Please enter customer password:ali1
Removed
1. Enter information about the shipments and sender and receiver name
2. Remove shipment
3. Add users (customers) to the system.
4. Remove users (customers) to the system
5. Package current status is entered into the system
0. Change user
-1. Exit
```

Finished the program.

```
1. Login as Administrator
2. Login as Bracnh Employee
3. Login as Transportation Personnel
4. Login as Customer
-1. Exit
-1

Process finished with exit code 0
```