GIT Department of Computer Engineering
CSE 222/505 - Spring 2020
Homework 1 Part 2 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.
For all users error handling done. If any instance is null NullPointerException catches it.

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 arraylist.

   - In order to keep the branch records, *add(branch)* method in ArrayList was used and branch instance was given as parameter.

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

   - In order to keep the branch records, *remove(branch)* method in ArrayList was used and branch instance was 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 arraylist.

   - 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 branch employee list in branch class with *getBranchEmployeesArray()* method. Lastly branch employee instance added by using *add(branchEmployee)* method in ArrayList.

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 branch employee list in branch class with getBranchEmployeesArray() method. Lastly branch employee instance removed by using remove(branchEmployee) method in ArrayList.*

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 transportation personnel list in branch class with getTransportationPersoonelArray() method. Lastly transportation personnel instance added by using add(transportationPersonnel) method in ArrayList.*

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 transportation personnel list in branch class with getTransportationPersoonelArray() method. Lastly transportation personnel instance removed by using remove(transportationPersonnel) method in ArrayList.*

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, *add(shipment)* method in ArrayList was used and shipment instance was given as parameter.

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

    - In order to keep the shipment records, *remove(shipment)* method in ArrayList was used and shipment instance was given as parameters. But first shipment instance was found with *findShipment*(shipmentsArray, trackingNumber); method.

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, *add(customer)* method in ArrayList was added to user arraylist.

4. Remove users (customers) to the system
    - A customer instance was removed with the information entered by the user.
    - Customer instance was found with *findShipment*(shipmentsArray, trackingNumber); method. Then, instance, *remove(customer)* method in ArrayList was removed to user arraylist.

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

    - *Customer instance was found with findShipment(shipmentsArray, trackingNumber);* method. Then called *setStatus(status);* in Shipment class method.

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

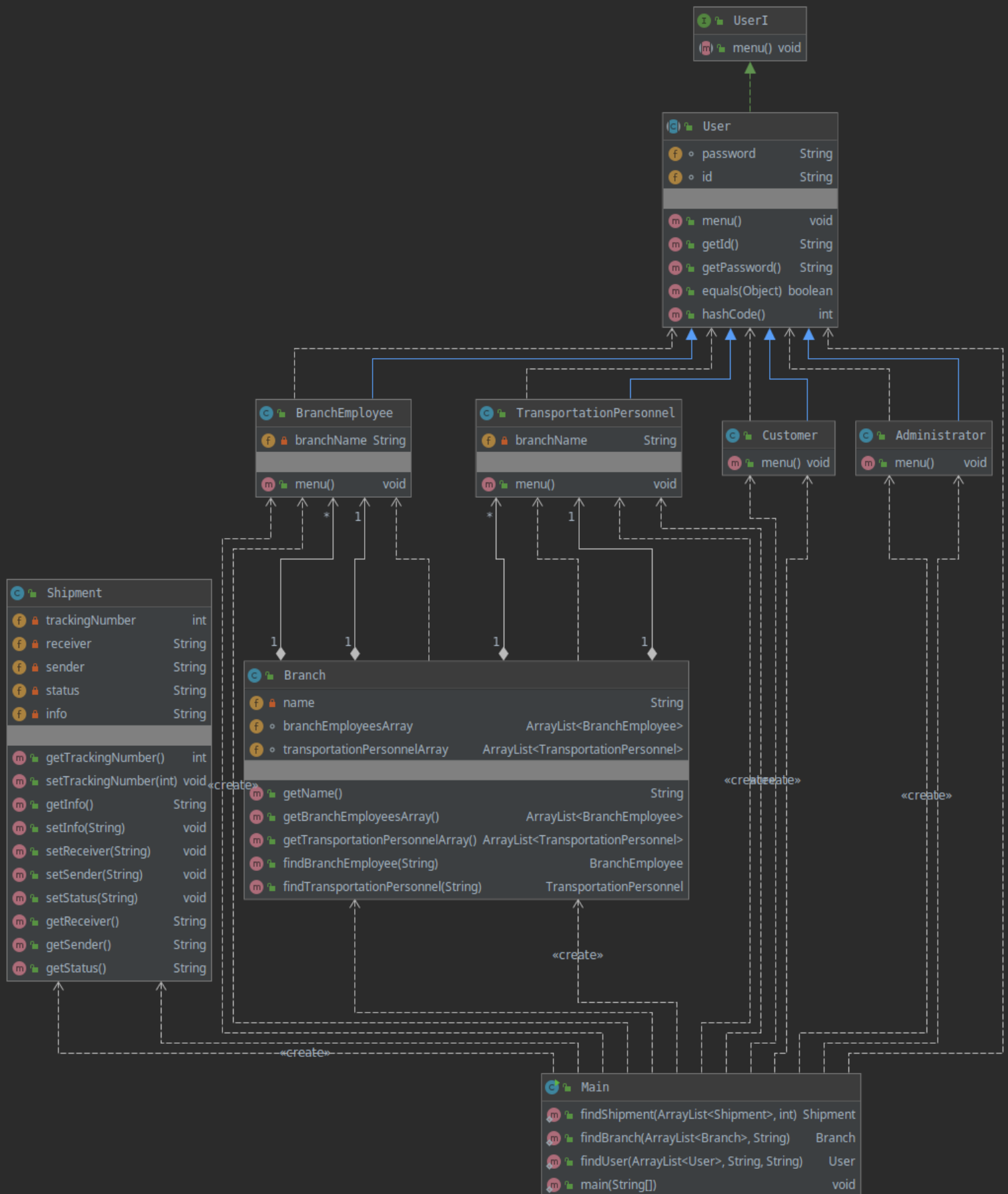**7.** Exit
- Finished the program.

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.

- *Customer instance was found with findShipment(shipmentsArray, trackingNumber);* method. 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, sender, 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.
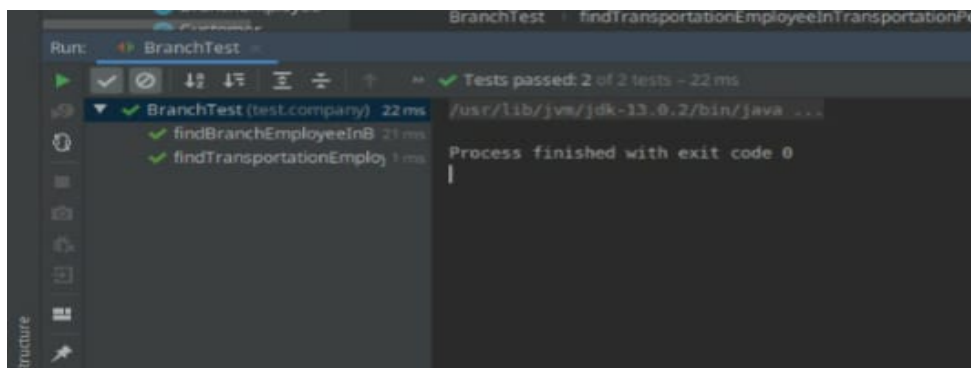
The common features of the users were gathered into base class, and then their different roles were determined in their own classes.

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.
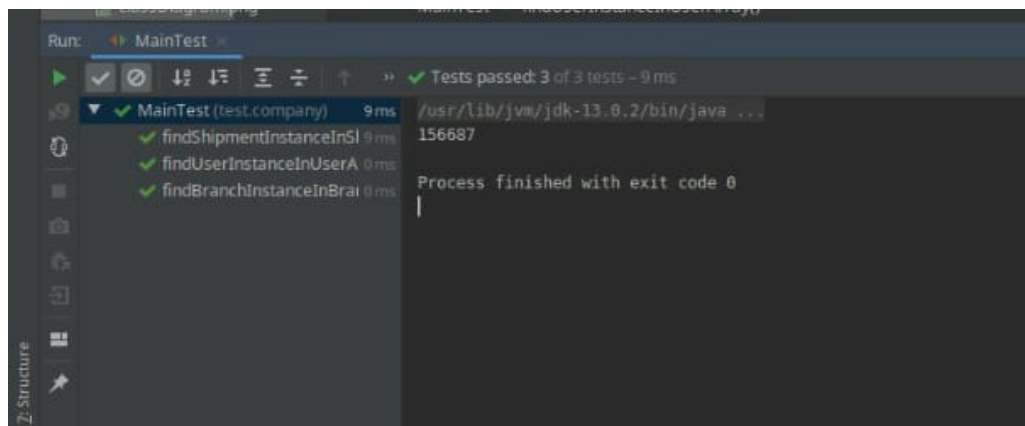
4. TEST CASES

(1) BranchTest
- findBranchEmployeeInBranchEmployeesAray()
- findTransportationEmployeeInTransportationPersonnelsAray()

(2) MainTest
- findUserInstanceInUserArray()
- findBranchInstanceInBranchArray()
- findShipmentInstanceInShipmentArray()

add and *remove* methods within ArrayList so their test was not done.

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.

```
1
Please enter the branch name :maltepe
Branch maltepe Recorded !
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
Branch 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 emirli
Please enter the branch name :maltepe
Recorded failed : There is no branch whit this name.
1. Add branch
2. Remove branch
3. Add branch employee
```

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

```
3
Please enter the branch employee name :esra emirli
Please enter the branch name :maltepe
Branch Employee esra emirli Recorded !
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 Branch Employee
3. Login as Transportation Personnel
4. Login as Customer
-1. Exit
2
Please enter your ID :esra emirli
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 :receiver
Please enter the sender name :sender
Please enter the information for shipment :empty
147010
Shipment sender to receiver Recorded !
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:customer
Please enter customer password:customer1
Customer customer Recorded !
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
```

User type changed and customer looked package informations.

```
Please enter your ID :customer
Please enter your password :customer
No User can be found!
1. Login as Administrator
2. Login as Branch Employee
3. Login as Transportation Personnel
4. Login as Customer
-1. Exit
4
Please enter your ID :customer
Please enter your password :customer1
1.Check your package information :
0. Change user
-1. Exit
1
Please enter the tracking number : 14701
There is no shipment with this tracking number.
1.Check your package information :
0. Change user
-1. Exit
1
Please enter the tracking number :147010
sender
receiver
Your package set out to be delivered.
empty
1.Check your package information :
0. Change user
-1. Exit
```

Administrator added transportation personnel and personnel updated status..

```
Please enter the transportation personnel name :name surname
Please enter the branch name :pendik
Transportation Personnel name surname Recorded !
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 Branch Employee
3. Login as Transportation Personnel
4. Login as Customer
-1. Exit
3
Please enter your ID :name surname
Please enter your password :pendik2020TP
1. Update package status
0. Change user
-1. Exit
1
Please enter the tracking number : 147010
Please enter package status : package in pendik branch
Status Updated !
1. Update package status
0. Change user
-1. Exit
```

Current status of customer's package has been updated.

```
Please enter your ID :customer
Please enter your password :customer
No User can be found!
1. Login as Administrator
2. Login as Branch Employee
3. Login as Transportation Personnel
4. Login as Customer
-1. Exit
4
Please enter your ID :customer
Please enter your password :customer1
1.Check your package information :
0. Change user
-1. Exit
1
Please enter the tracking number :147010
sender
receiver
 package in pendik branch
empty
1.Check your package information :
0. Change user
-1. Exit
```

Deleted shipment and customer by branch employeee

```
Please enter the tracking number:147010
Shipment (147010) 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
```

```
Please enter customer name:customer
Please enter customer password:customer1
Customer customer Removed !
1. Enter information about the shipments and sender and receiver name
```

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
```