GTU Department of Computer Engineering

CSE 222 - Spring 2023

Homework 1 Report

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Detailed system requirements

login(account[] allAccounts): The login function basically performs the login process by making the boolean value in the account object true. It also checks if the user who is already logged in tries to log in again and takes all account objects and does not allow another user to log in if the boolean value is true.

addPost(post obj): The AddPost function must be called by a logged in user, otherwise it will not be able to perform the operation. It adds the incoming post object to the post array in the account.

viewPosts(account obj): The viewPosts function shows the user's posts, but this function is not directly accessible. The profile must be viewed first and then this function must be called.

viewInteractions(account obj): The viewInteractions function prints the like and comment information of the user's posts.

viewProfile(account obj): The viewProfile function scrolls through the array inside the incoming object and prints the information to the screen. However, before it works, it checks if the user has blocked the other user, if so, the operation does not take place.

logout(): The logout () function terminates the session of a logged in user by making the boolean value false again. Again, as in login, it prevents misuse by performing control operations.

follow(account obj): The Follow function adds the incoming object to the follow array of the called object.

checkMessageBox(): This function prints the number of messages in the inbox and outbox.
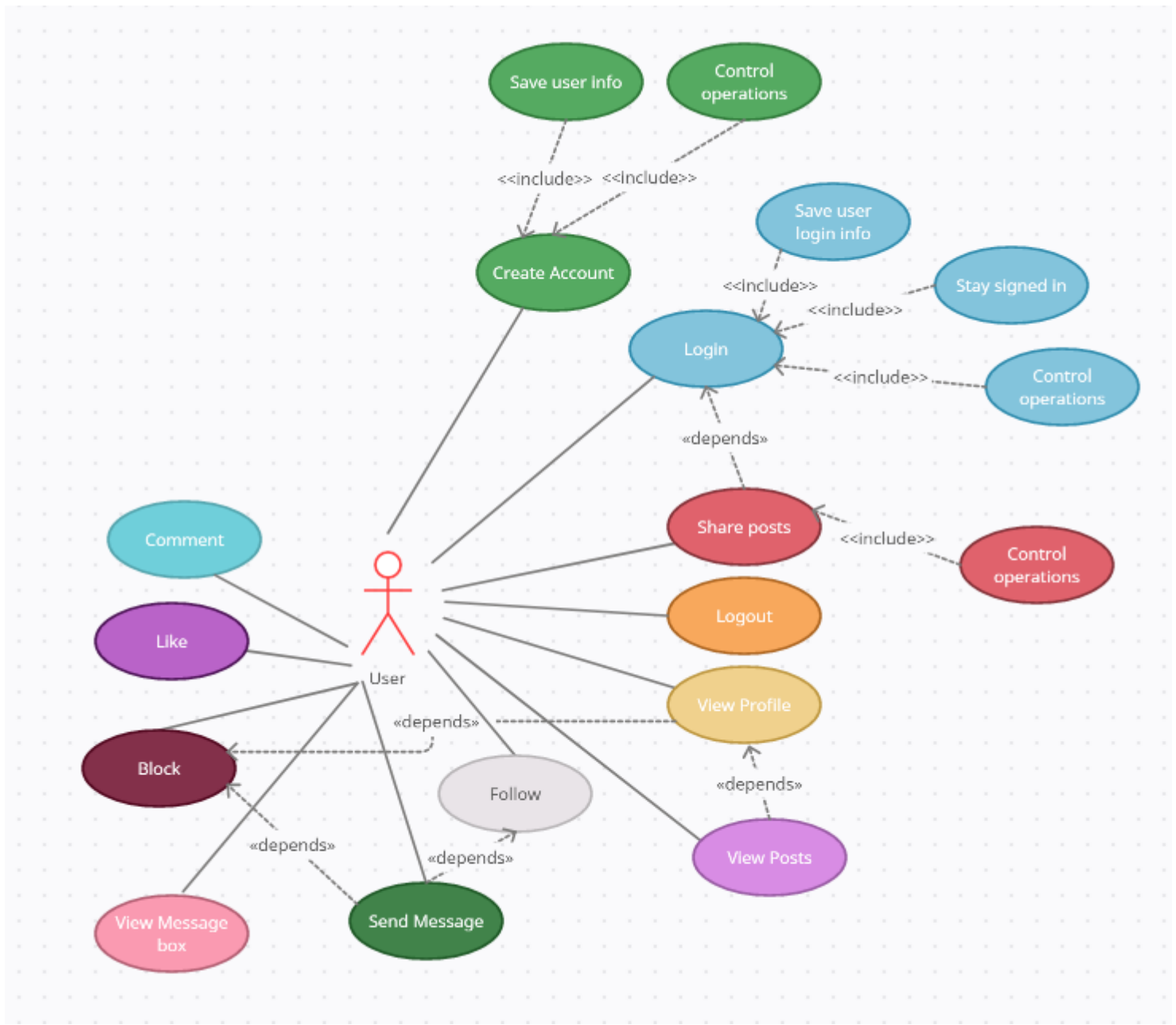
viewInbox(): Prints incoming messages in detail.

block(account obj): This function adds the incoming object to the blocked array

addLike(like obj): This method of the post object adds the like object to the like array inside the post object..

addComment: This method of the post object adds the comment object to the comment array inside the post object..

The Project use case diagram

Problem solutions approach

While designing the project, it was found appropriate to inherit from 2 different classes.

Hierarchy For Package homework1

Class Hierarchy

- java.lang.**Object**
    - homework1.**account**
        - homework1.**message**
    - homework1.**interaction**
        - homework1.**comment**
        - homework1.**like**
    - homework1.**post**
    - homework1.**TestClass1**
    - homework1.**TestClass2**
    - homework1.**TestClass3**

The message class inherits from account, the main reason for this is that after creating the message object in the constructor, it needs to be added to the array in the account object without additional processing.

Interaction class is the base class of like and comment classes.

Package homework1

package homework1

Classes	
Class	**Description**
account	This class was created to create account objects and perform basic operations on them.
comment	This class contains comment objects and inherits from the Interactions class
interaction	Interaction class is abstract and created for like and comment classes.
like	This class contains likes objects and inherits from the Interactions class
message	The reason why this class inherits from account is that it calls the addMessage function when a message object is created.
post	Class that creates post objects
TestClass1	This class was made to perform test case 1
TestClass2	This class was made to perform test case 2
TestClass3	This class was made to perform test case 3

The code structure consisting of 6 main classes and 3 test classes provided a solution to the problems.

Test cases

3 test cases were created with different test classes.
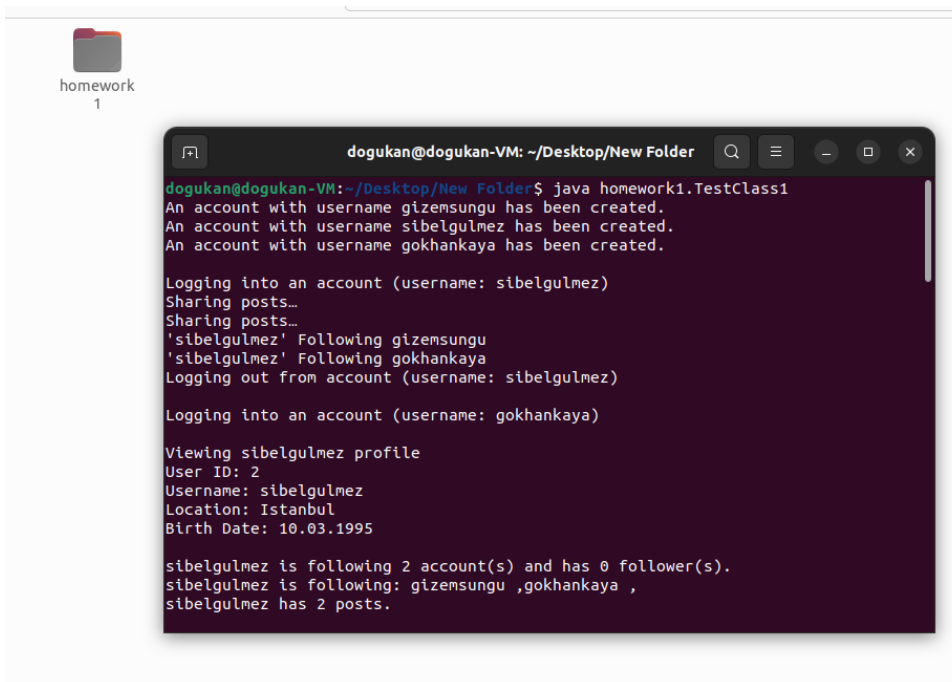
TestClass 1:

```java
 9  public class TestClass1 {
10
11●     public static void main(String[] args) {
12
13          account[] AllAccounts=new account[3];
14
15          account gizemsungu = new account(1,"gizemsungu","13.01.1993","Istanbul");
16          account sibelgulmez = new account(2,"sibelgulmez","10.03.1995","Istanbul");
17          account gokhankaya = new account(3,"gokhankaya","05.02.1980","Istanbul");
18
19          AllAccounts[0]=gizemsungu;
20          AllAccounts[1]=sibelgulmez;
21          AllAccounts[2]=gokhankaya;
22
23          sibelgulmez.login(AllAccounts);
24          post post1 =new post(1,2,"I like Java.");
25          sibelgulmez.addPost(post1);
26          post post2 =new post(2,2,"Java the coffee...");
27          sibelgulmez.addPost(post2);
28
29          sibelgulmez.follow(gizemsungu);
30          sibelgulmez.follow(gokhankaya);
31
32          sibelgulmez.logout();
33
34          gokhankaya.login(AllAccounts);
35          gokhankaya.viewProfile(sibelgulmez);
36          gokhankaya.viewPosts(sibelgulmez);
37
38          like like1 = new like(gokhankaya);
39          post1.addLike(like1);
40
41          comment comment1 = new comment(gokhankaya,"me too!");
42          post1.addComment(comment1);
43
44          gokhankaya.follow(sibelgulmez);
45          gokhankaya.follow(gizemsungu);
46
47          message message1 =new message(1,gokhankaya,gizemsungu,"This homework is too easy!");
48          gokhankaya.logout();
49
50          gizemsungu.login(AllAccounts);
51          gizemsungu.checkMessageBox();
52          gizemsungu.viewInbox();
53          gizemsungu.viewProfile(sibelgulmez);
54          gizemsungu.viewPosts(sibelgulmez);
55          gizemsungu.viewInteractions(sibelgulmez);
56          like like2 = new like(gizemsungu);
57          post1.addLike(like2);
58          post2.addLike(like2);
59          gizemsungu.viewInteractions(sibelgulmez);
60
61      }
62  }
```

TestClass 2:

```java
60          gizemsungu.viewInteractions(sibelgulmez);
61          //--------------------------------- Test SCENARIO 2
62          System.out.println("\n--------Test SCENARIO 2--------\n**********************************\n");
63          gizemsungu.login(AllAccounts);
64          gizemsungu.addPost(post1);
65          gizemsungu.addPost(post2);
66          gizemsungu.logout();
67          sibelgulmez.login(AllAccounts);
68          sibelgulmez.viewProfile(gizemsungu);
69          like like3 = new like(sibelgulmez);
70          post1.addLike(like3);
71          sibelgulmez.logout();
72          gokhankaya.login(AllAccounts);
73          gokhankaya.viewProfile(gizemsungu);
74          comment comment2 = new comment(gokhankaya,"Nice!");
75          post2.addComment(comment2);
76          message message2 =new message(2,gokhankaya,gizemsungu,"Hello!");
77          gokhankaya.logout();
78          gizemsungu.login(AllAccounts);
79          gizemsungu.viewProfile(gizemsungu);
80          gizemsungu.viewInbox();
81
82      }
83
84  }
```

TestClass 3:

```
60        gizemsungu.viewInteractions(sibelgulmez);
61        //------------------------------ Test SCENARIO 3
62        System.out.println("\n--------Test SCENARIO 3--------\n*************************************\n");
63        gizemsungu.login(AllAccounts);
64        gizemsungu.block(sibelgulmez);
65        gizemsungu.logout();
66        sibelgulmez.login(AllAccounts);
67        sibelgulmez.viewProfile(gizemsungu);
68        message message3 =new message(3,sibelgulmez,gizemsungu,"hello");
69    }
70
71 }
72
```

homework
1

```
doogukan@dogukan-VM: ~/Desktop/New Folder
dogukan@dogukan-VM:~/Desktop/New Folder$ java homework1.TestClass1
An account with username gizemsungu has been created.
An account with username sibelgulmez has been created.
An account with username gokhankaya has been created.

Logging into an account (username: sibelgulmez)
Sharing posts…
Sharing posts…
'sibelgulmez' Following gizemsungu
'sibelgulmez' Following gokhankaya
Logging out from account (username: sibelgulmez)

Logging into an account (username: gokhankaya)

Viewing sibelgulmez profile
User ID: 2
Username: sibelgulmez
Location: Istanbul
Birth Date: 10.03.1995

sibelgulmez is following 2 account(s) and has 0 follower(s).
sibelgulmez is following: gizemsungu ,gokhankaya ,
sibelgulmez has 2 posts.
```
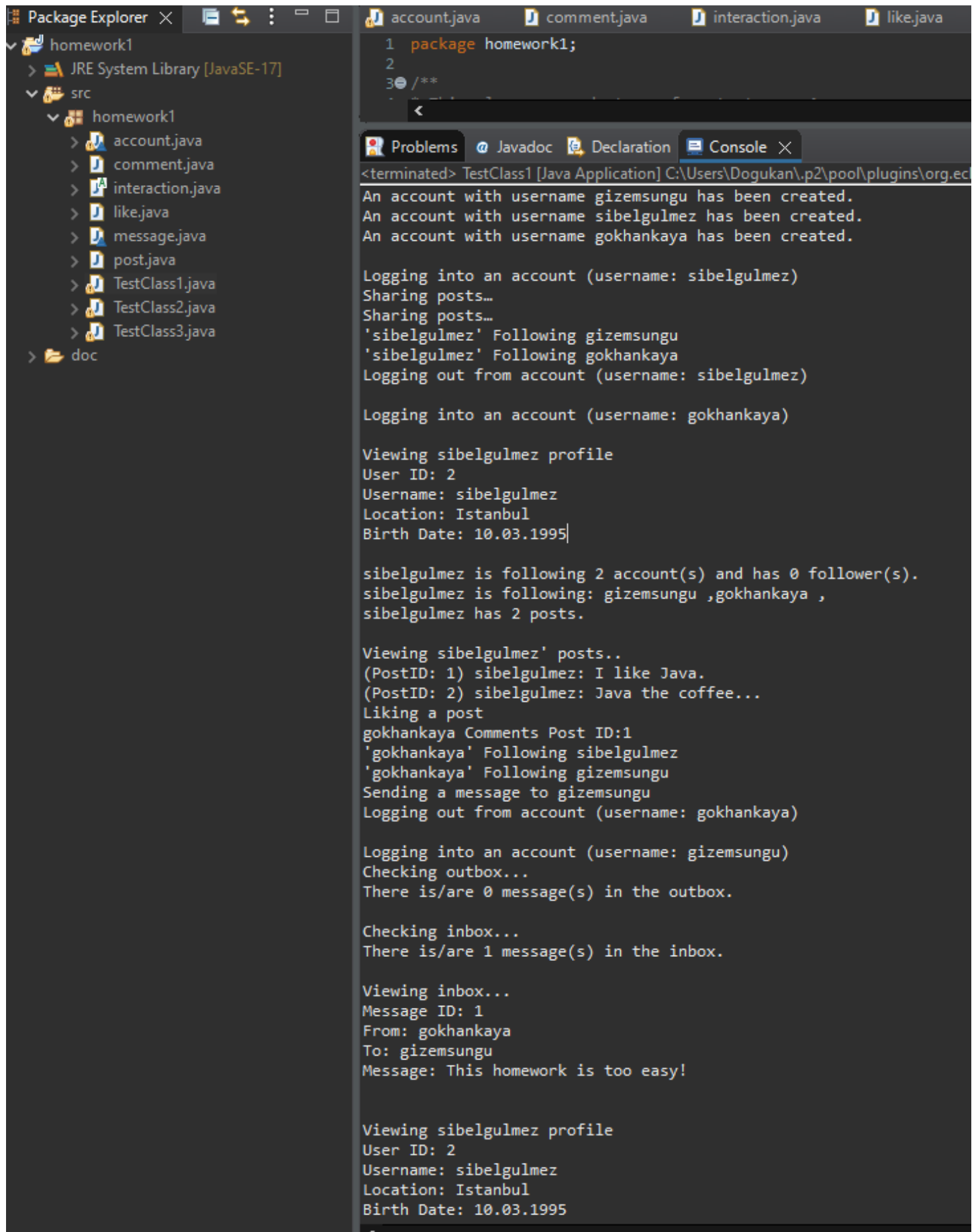
Screenshot showing it running on Linux

Running command and results

TestClass1 :

```
homework1
  JRE System Library [JavaSE-17]
  src
    homework1
      account.java
      comment.java
      interaction.java
      like.java
      message.java
      post.java
      TestClass1.java
      TestClass2.java
      TestClass3.java
  doc
```

account.java   comment.java   interaction.java   like.java

```
1  package homework1;
2
3  /**
```

Problems   @ Javadoc   Declaration   Console ×

`<terminated> TestClass1 [Java Application] C:\Users\Dogukan\.p2\pool\plugins\org.ec|`

```
An account with username gizemsungu has been created.
An account with username sibelgulmez has been created.
An account with username gokhankaya has been created.

Logging into an account (username: sibelgulmez)
Sharing posts…
Sharing posts…
'sibelgulmez' Following gizemsungu
'sibelgulmez' Following gokhankaya
Logging out from account (username: sibelgulmez)

Logging into an account (username: gokhankaya)

Viewing sibelgulmez profile
User ID: 2
Username: sibelgulmez
Location: Istanbul
Birth Date: 10.03.1995

sibelgulmez is following 2 account(s) and has 0 follower(s).
sibelgulmez is following: gizemsungu ,gokhankaya ,
sibelgulmez has 2 posts.

Viewing sibelgulmez' posts..
(PostID: 1) sibelgulmez: I like Java.
(PostID: 2) sibelgulmez: Java the coffee...
Liking a post
gokhankaya Comments Post ID:1
'gokhankaya' Following sibelgulmez
'gokhankaya' Following gizemsungu
Sending a message to gizemsungu
Logging out from account (username: gokhankaya)

Logging into an account (username: gizemsungu)
Checking outbox...
There is/are 0 message(s) in the outbox.

Checking inbox...
There is/are 1 message(s) in the inbox.

Viewing inbox...
Message ID: 1
From: gokhankaya
To: gizemsungu
Message: This homework is too easy!


Viewing sibelgulmez profile
User ID: 2
Username: sibelgulmez
Location: Istanbul
Birth Date: 10.03.1995
```

Problems @ Javadoc Declaration Console ✕

<terminated> TestClass1 [Java Application] C:\Users\Dogukan\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_17.0.

```
To: gizemsungu
Message: This homework is too easy!


Viewing sibelgulmez profile
User ID: 2
Username: sibelgulmez
Location: Istanbul
Birth Date: 10.03.1995

sibelgulmez is following 2 account(s) and has 1 follower(s).
sibelgulmez is following: gizemsungu ,gokhankaya ,
sibelgulmez has 2 posts.

Viewing sibelgulmez' posts..
(PostID: 1) sibelgulmez: I like Java.
(PostID: 2) sibelgulmez: Java the coffee...

Viewing sibelgulmez's posts' interactions...

---------------------------
(PostID: 1): I like Java.

The post has 1 like(s)...
The post was liked by the following account(s): gokhankaya ,
The post has 1 comment(s)...
Comment 1'gokhankaya'said 'me too!'
---------------------------
(PostID: 2): Java the coffee...

The post has 0 like(s)...
The post has 0 comment(s)...
Liking a post
Liking a post

Viewing sibelgulmez's posts' interactions...

---------------------------
(PostID: 1): I like Java.

The post has 2 like(s)...
The post was liked by the following account(s): gokhankaya ,
The post was liked by the following account(s): gizemsungu ,
The post has 1 comment(s)...
Comment 1'gokhankaya'said 'me too!'
---------------------------
(PostID: 2): Java the coffee...

The post has 1 like(s)...
The post was liked by the following account(s): gizemsungu ,
The post has 0 comment(s)...
```

Test 1 results are as above and agree with the pdf.

TestClass 2 :

```
> account.java
> comment.java
> interaction.java
> like.java
> message.java
> post.java
> TestClass1.java
> TestClass2.java
> TestClass3.java
doc
```

Problems @ Javadoc Declaration Console ✕

<terminated> TestClass2 [Java Application] C:\Users\Dogukan\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_17.0.3

```
--------Test SCENARIO 2--------
*******************************

You're already logged in!! Username: gizemsungu
Sharing posts...
Sharing posts...
Logging out from account (username: gizemsungu)

Logging into an account (username: sibelgulmez)

Viewing gizemsungu profile
User ID: 1
Username: gizemsungu
Location: Istanbul
Birth Date: 13.01.1993

gizemsungu is following 0 account(s) and has 2 follower(s).
gizemsungu is following:
gizemsungu has 2 posts.

Liking a post
Logging out from account (username: sibelgulmez)

Logging into an account (username: gokhankaya)

Viewing gizemsungu profile
User ID: 1
Username: gizemsungu
Location: Istanbul
Birth Date: 13.01.1993

gizemsungu is following 0 account(s) and has 2 follower(s).
gizemsungu is following:
gizemsungu has 2 posts.

gokhankaya Comments Post ID:2
Sending a message to gizemsungu
Logging out from account (username: gokhankaya)

Logging into an account (username: gizemsungu)

Viewing gizemsungu profile
User ID: 1
Username: gizemsungu
Location: Istanbul
Birth Date: 13.01.1993

gizemsungu is following 0 account(s) and has 2 follower(s).
gizemsungu is following:
gizemsungu has 2 posts.
```

```
Viewing inbox...
Message ID: 1
From: gokhankaya
To: gizemsungu
Message: This homework is too easy!

Message ID: 2
From: gokhankaya
To: gizemsungu
Message: Hello!
```

TestClass3 :

```
The post was liked by the following account(s): gizemsungu ,
The post has 0 comment(s)...

--------Test SCENARIO 3--------
***********************************

You're already logged in!! Username: gizemsungu
gizemsungu blocked user: sibelgulmez
Logging out from account (username: gizemsungu)

Logging into an account (username: sibelgulmez)
This user has blocked you ! Cannot View Profile
This user has blocked you ! Cannot send messages
```