

CSE222

HomeWork #1

Report

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## TEST-CASES

Running command and results: I am sharing only one test case scenario for one of the parts since the tests I used in part1, part2, and part3 are the same, and their outputs are the same.

### TestClass1 Running Commands

```
// Step 1 -> Logging into an account (username: sibelgulmez).
sibelgulmez.login();
// Step 3 -> Sharing two posts...
sibelgulmez.create_new_post("I like Java.",0);
sibelgulmez.create_new_post("Java the coffee...",1);
//Step 4 -> Following gizemsungu and gokhankaya...
sibelgulmez.follow_someone(user_accounts,"gizemsungu");
sibelgulmez.follow_someone(user_accounts,"gokhankaya");
// Step 5 -> Logging out from account 'sibelgulmez';
sibelgulmez.logout();
// Step 6 -> Logging into another account (username:gokhankaya)
gokhankaya.login();
// Step 7 -> Viewing sibelgulmez profile...
// If you try to view profile a non-existent user, you will encounter an error message saying that the user cannot be found.
gokhankaya.view_profile(user_accounts,"sibelgulmez");
// Step 8 -> Viewing sibelgulmez' posts...
gokhankaya.view_user_posts(user_accounts,"sibelgulmez");
//Step 9 -> Liking a post of sibelgulmez.
gokhankaya.like_a_post(user_accounts,"sibelgulmez",0);
// Step 10 -> Adding a comment on a post of sibelgulmez...
gokhankaya.add_comment_post(user_accounts,0,"me too...");
// Step 11 -> following sibelgulmez and gizemsungu...
gokhankaya.follow_someone(user_accounts,"sibelgulmez");
gokhankaya.follow_someone(user_accounts,"gizemsungu");
// Step12 -> Sending a message to gizemsungu...
//You cannot send a message to yourself.If you send you will take a error message.
gokhankaya.send_message(user_accounts,"gizemsungu",0,"This homework is too easy!");
// Step 13 -> Logging out from account 'gokhankaya'
gokhankaya.logout();
// Step 14 -> Logging into another account (username:gizemsungu)
gizemsungu.login();
// Step 15 -> Checking outbox...
gizemsungu.check_outbox();
// Step 16 -> Checking inbox...
gizemsungu.check_inbox();
// Step 17 -> Viewing inbox...
gizemsungu.print_inbox_messages();
// Step 18 -> Viewing sibelgulmez's profile
gizemsungu.view_profile(user_accounts,"sibelgulmez");
// Step 19 -> Viewing sibelgulmez's posts...
gizemsungu.view_user_posts(user_accounts,"sibelgulmez");
// Step 20 -> Viewing sibelgulmez's posts' interactions...
gizemsungu.get_all_interactions(user_accounts,"sibelgulmez");
// Step 21 -> Liking sibelgulmez's posts...
gizemsungu.like_a_post(user_accounts,"sibelgulmez",0);
gizemsungu.like_a_post(user_accounts,"sibelgulmez",1);
// Step 22 -> Viewing sibelgulmez's posts' interactions...
gizemsungu.get_all_interactions(user_accounts,"sibelgulmez");
gizemsungu.logout();
```

## TestClass1 Results

```
sibelgulmez logged in the system...
Post is creating...
Post is creating...
Following gizemsungu...
Following gokhankaya...
sibelgulmez logout in the system
gokhankaya logged in the system...
Viewing sibelgulmez's profile...
-----
ID: 1
Username: sibelgulmez
Location: Istanbul
Birth date: 11.11.2000
sibelgulmez is following 2 account(s) and has 0follower(s)
sibelgulmez is following: gizemsungu,gokhankaya,
sibelgulmez has 2 posts

Viewing sibelgulmez's posts...
(Post ID :0) : I like Java.
(Post ID :1) : Java the coffe...

Like was created
Comment was created

Following sibelgulmez...
Following gizemsungu...
Message was sended
gokhankaya logout in the system
gizemsungu logged in the system...
Checking outbox...
There is/are 0 message(s) in the outbox

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

Message ID: 0
From: gokhankaya
To: gizemsungu
Message: This homework is too easy!
```

```
Viewing sibelgulmez's profile...
-----
ID: 1
Username: sibelgulmez
Location: Istanbul
Birth date: 11.11.2000
sibelgulmez is following 2 account(s) and has 1follower(s)
The followers of sibelgulmez are: gokhankaya,
sibelgulmez is following: gizemsungu,gokhankaya,
sibelgulmez has 2 posts

Viewing sibelgulmez's posts...
(Post ID :0) : I like Java.
(Post ID :1) : Java the coffe...

Viewing sibelgulmez's posts's interactions...
-----
(Post ID: 0) : I like Java.
The post was liked by the following account(s): gokhankaya,
Comment 1:'gokhankaya' said 'me too...'

-----
(Post ID: 1) : Java the coffe...
The post no likes.
The post no comments.

Like was created
Like was created

Viewing sibelgulmez's posts's interactions...
-----
(Post ID: 0) : I like Java.
The post was liked by the following account(s): gokhankaya, gizemsungu,
Comment 1:'gokhankaya' said 'me too...'

-----
(Post ID: 1) : Java the coffe...
The post was liked by the following account(s): gizemsungu,
The post no comments.

gizemsungu logout in the system
```

## TestClass2 Running Commands Results

```
// Step 2 -> Logging into an account (username: sibelgulmez).
sibelgulmez.login();
// Step 3 -> Sharing two posts...
sibelgulmez.create_new_post("I like Java.",0);
sibelgulmez.create_new_post("Java the coffee...",1);
//Step 4 -> Following gizemsungu and gokhankaya...
sibelgulmez.follow_someone(user_accounts,"gizemsungu");
sibelgulmez.follow_someone(user_accounts,"gokhankaya");
// Step 5 -> Logging out from account 'sibelgulmez';
sibelgulmez.logout();
// Step 6 -> Logging into another account (username:gokhankaya)
gokhankaya.login();
// Step 7 -> Viewing sibelgulmez profile...
// If you try to view profile a non-existent user, you will encounter an error message saying that the user cannot be found.
gokhankaya.view_profile(user_accounts,"sibelgulmez");
// Step 8 -> Viewing sibelgulmez' posts...
gokhankaya.view_user_posts(user_accounts,"sibelgulmez");
//Step 9 -> Liking a post of sibelgulmez.
gokhankaya.like_a_post(user_accounts,"sibelgulmez",0);
// Step 10 -> Adding a comment on a post of sibelgulmez...
gokhankaya.add_comment_post(user_accounts,0,"me too...");
// Step 11 -> following sibelgulmez and gizemsungu...
gokhankaya.follow_someone(user_accounts,"sibelgulmez");
gokhankaya.follow_someone(user_accounts,"gizemsungu");
// Step12 -> Sending a message to gizemsungu...
//You cannot send a message to yourself.If you send you will take a error message.
gokhankaya.send_message(user_accounts,"gizemsungu",0,"This homework is too easy!");
// Step 13 -> Logging out from account 'gokhankaya'
gokhankaya.logout();
// Step 14 -> Logging into another account (username:gizemsungu)
gizemsungu.login();
// Step 15 -> Checking outbox...
gizemsungu.check_outbox();
// Step 16 -> Checking inbox...
gizemsungu.check_inbox();
// Step 17 -> Viewing inbox...
gizemsungu.print_inbox_messages();
// Step 18 -> Viewing sibelgulmez's profile
gizemsungu.view_profile(user_accounts,"sibelgulmez");
// Step 19 -> Viewing sibelgulmez's posts...
gizemsungu.view_user_posts(user_accounts,"sibelgulmez");
// Step 20 -> Viewing sibelgulmez's posts' interactions...
gizemsungu.get_all_interactions(user_accounts,"sibelgulmez");
// Step 21 -> Liking sibelgulmez's posts...
gizemsungu.like_a_post(user_accounts,"sibelgulmez",0);
gizemsungu.like_a_post(user_accounts,"sibelgulmez",1);
// Step 22 -> Viewing sibelgulmez's posts' interactions...
gizemsungu.get_all_interactions(user_accounts,"sibelgulmez");
gizemsungu.logout();
```

```
gizemsungu.login();
gizemsungu.create_new_post("Post1",2);
gizemsungu.create_new_post("Post2",3);
gizemsungu.logout();

sibelgulmez.login();
sibelgulmez.view_profile(user_accounts,"gizemsungu");
sibelgulmez.like_a_post(user_accounts,"gizemsungu",2);
sibelgulmez.logout();

gokhankaya.login();
gokhankaya.view_profile(user_accounts,"gizemsungu");
gokhankaya.add_comment_post(user_accounts,3,"Nice!");
gokhankaya.send_message(user_accounts,"gizemsungu",1,"Hello");
gokhankaya.logout();

gizemsungu.login();
gizemsungu.view_profile(user_accounts,"gizemsungu");
gizemsungu.print_inbox_messages();
gizemsungu.logout();
}
```

## TestClass2 Results

```
sibulgulmez logged in the system...
Post is creating...
Post is creating...
Following gizemsungu...
Following gokhankaya...
sibulgulmez logout in the system
gokhankaya logged in the system...
Viewing sibulgulmez's profile...
-----
ID: 1
Username: sibulgulmez
Location: Istanbul
Birth date: 11.11.2000
sibulgulmez is following 2 account(s) and has 1follower(s)
sibulgulmez is following: gizemsungu,gokhankaya,
sibulgulmez has 2 posts

Viewing sibulgulmez's posts...
(Post ID :0) : I like Java.
(Post ID :1) : Java the coffee...

Like was created

Comment was created

Following sibulgulmez...
Following gizemsungu...

Message was sended

gokhankaya logout in the system
gizemsungu logged in the system...
Checking outbox...
There is/are 0 message(s) in the outbox

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

Message ID: 0
From: gokhankaya
To: gizemsungu
Message: This homework is too easy!
```

```
Viewing sibulgulmez's profile...
-----
ID: 1
Username: sibulgulmez
Location: Istanbul
Birth date: 11.11.2000
sibulgulmez is following 2 account(s) and has 1follower(s)
The followers of sibulgulmez are: gokhankaya,
sibulgulmez is following: gizemsungu,gokhankaya,
sibulgulmez has 2 posts

Viewing sibulgulmez's posts...
(Post ID :0) : I like Java.
(Post ID :1) : Java the coffee...

Viewing sibulgulmez's posts's interactions...
-----
(Post ID: 0) : I like Java.
The post was liked by the following account(s): gokhankaya,
Comment 1:'gokhankaya' said 'me too...'

-----
(Post ID: 1) : Java the coffee...
The post no likes.
The post no comments.

Like was created

Like was created

Viewing sibulgulmez's posts's interactions...
-----
(Post ID: 0) : I like Java.
The post was liked by the following account(s): gokhankaya, gizemsungu,
Comment 1:'gokhankaya' said 'me too...'

-----
(Post ID: 1) : Java the coffee...
The post was liked by the following account(s): gizemsungu,
The post no comments.

gizemsungu logout in the system
```

gizemsungu logged in the system...

Post is creating...

Post is creating...

gizemsungu logout in the system

sibelgulmez logged in the system...

Viewing gizemsungu's profile...

-----  
ID: 0

Username: gizemsungu

Location: Istanbul

Birth date: 11.11.2000

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

The followers of gizemsungu are: sibelgulmez,gokhankaya,

gizemsungu has 2 posts

Like was created

sibelgulmez logout in the system

gokhankaya logged in the system...

Viewing gizemsungu's profile...

-----  
ID: 0

Username: gizemsungu

Location: Istanbul

Birth date: 11.11.2000

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

The followers of gizemsungu are: sibelgulmez,gokhankaya,

gizemsungu has 2 posts

Comment was created

Message was sended

gokhankaya logout in the system

gizemsungu logged in the system...

Viewing gizemsungu's profile...

-----  
ID: 0

Username: gizemsungu

Location: Istanbul

Birth date: 11.11.2000

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

The followers of gizemsungu are: sibelgulmez,gokhankaya,

gizemsungu has 2 posts

Message ID: 0

From: gokhankaya

To: gizemsungu

Message: This homework is too easy!

Message ID: 1

From: gokhankaya

To: gizemsungu

Message: Hello

gizemsungu logout in the system

## TestClass3 Running Commands Results

```
// Step 2 -> Logging into an account (username: sibulgulmez).
sibulgulmez.login();
// Step 3 -> Sharing two posts...
sibulgulmez.create_new_post("I like Java.",0);
sibulgulmez.create_new_post("Java the coffee...",1);
//Step 4 -> Following gizemsungu and gokhankaya...
sibulgulmez.follow_someone(user_accounts,"gizemsungu");
sibulgulmez.follow_someone(user_accounts,"gokhankaya");
// Step 5 -> Logging out from account 'sibulgulmez';
sibulgulmez.logout();
// Step 6 -> Logging into another account (username:gokhankaya)
gokhankaya.login();
// Step 7 -> Viewing sibulgulmez profile...
// If you try to view profile a non-existent user, you will encounter an error message saying that the user cannot be found.
gokhankaya.view_profile(user_accounts,"sibulgulmez");
// Step 8 -> Viewing sibulgulmez' posts...
gokhankaya.view_user_posts(user_accounts,"sibulgulmez");
//Step 9 -> Liking a post of sibulgulmez.
gokhankaya.like_a_post(user_accounts,"sibulgulmez",0);
// Step 10 -> Adding a comment on a post of sibulgulmez...
gokhankaya.add_comment_post(user_accounts,0,"me too...");
// Step 11 -> following sibulgulmez and gizemsungu...
gokhankaya.follow_someone(user_accounts,"sibulgulmez");
gokhankaya.follow_someone(user_accounts,"gizemsungu");
// Step12 -> Sending a message to gizemsungu...
//You cannot send a message to yourself.If you send you will take a error message.
gokhankaya.send_message(user_accounts,"gizemsungu",0,"This homework is too easy!");
// Step 13 -> Logging out from account 'gokhankaya'
gokhankaya.logout();
// Step 14 -> Logging into another account (username:gizemsungu)
gizemsungu.login();
// Step 15 -> Checking outbox...
gizemsungu.check_outbox();
// Step 16 -> Checking inbox...
gizemsungu.check_inbox();
// Step 17 -> Viewing inbox...
gizemsungu.print_inbox_messages();
// Step 18 -> Viewing sibulgulmez's profile
gizemsungu.view_profile(user_accounts,"sibulgulmez");
// Step 19 -> Viewing sibulgulmez's posts...
gizemsungu.view_user_posts(user_accounts,"sibulgulmez");
// Step 20 -> Viewing sibulgulmez's posts' interactions...
gizemsungu.get_all_interactions(user_accounts,"sibulgulmez");
// Step 21 -> Liking sibulgulmez's posts...
gizemsungu.like_a_post(user_accounts,"sibulgulmez",0);
gizemsungu.like_a_post(user_accounts,"sibulgulmez",1);
// Step 22 -> Viewing sibulgulmez's posts' interactions...
gizemsungu.get_all_interactions(user_accounts,"sibulgulmez");
gizemsungu.logout();
```

```
gizemsungu.login();
gizemsungu.create_new_post("Post1",2);
gizemsungu.create_new_post("Post2",3);
gizemsungu.logout();
```

```
sibulgulmez.login();
sibulgulmez.view_profile(user_accounts,"gizemsungu");
sibulgulmez.like_a_post(user_accounts,"gizemsungu",2);
sibulgulmez.logout();

gokhankaya.login();
gokhankaya.view_profile(user_accounts,"gizemsungu");
gokhankaya.add_comment_post(user_accounts,3,"Nice!");
gokhankaya.send_message(user_accounts,"gizemsungu",1,"Hello");
gokhankaya.logout();
```

```
gizemsungu.login();
gizemsungu.view_profile(user_accounts,"gizemsungu");
gizemsungu.print_inbox_messages();
gizemsungu.logout();
```

```
//SCNERIO 3

gizemsungu.login();
gizemsungu.block_someone(user_accounts,"sibulgulmez");
gizemsungu.unblock_someone(user_accounts,"sibulgulmez");
gizemsungu.logout();

sibulgulmez.login();
sibulgulmez.view_profile(user_accounts,"gizemsungu");
sibulgulmez.send_message(user_accounts,"gizemsungu",10,"blocked message");
```

```
gizemsungu.login();
gizemsungu.block_someone(user_accounts,"sibulgulmez");
gizemsungu.unblock_someone(user_accounts,"sibulgulmez");
gizemsungu.logout();

sibulgulmez.login();
sibulgulmez.view_profile(user_accounts,"gizemsungu");
sibulgulmez.send_message(user_accounts,"gizemsungu",10,"blocked message");

//Error cases
//If the user tries to log in again without logging out, they will encounter an error message.
gizemsungu.login();
gizemsungu.login();

//User cannot send messages to themselves or follow themselves.
gizemsungu.follow_someone(user_accounts,"gizemsungu");
gizemsungu.send_message(user_accounts,"gizemsungu",6,"I cannot send a message to myself");

//An error message is displayed when an invalid username is entered.
gizemsungu.view_profile(user_accounts,"nonexistuser");
gizemsungu.follow_someone(user_accounts,"nonexistuser");
gizemsungu.send_message(user_accounts,"nonexistuser",6,"I cannot send a message to myself");

//The user cannot perform any action without logging in.
gokhankaya.follow_someone(user_accounts,"gizemsungu");
```

## TestClass3 Results

```
sibulgulmez logged in the system...
Post is creating...
Post is creating...
Following gizemsungu...
Following gokhankaya...
sibulgulmez logout in the system
gokhankaya logged in the system...
Viewing sibulgulmez's profile...
-----
ID: 1
Username: sibulgulmez
Location: Istanbul
Birth date: 11.11.2000
sibulgulmez is following 2 account(s) and has 1follower(s)
sibulgulmez is following: gizemsungu,gokhankaya,
sibulgulmez has 2 posts

Viewing sibulgulmez's posts...
(Post ID :0) : I like Java.
(Post ID :1) : Java the coffee...

Like was created

Comment was created

Following sibulgulmez...
Following gizemsungu...

Message was sended

gokhankaya logout in the system
gizemsungu logged in the system...
Checking outbox...
There is/are 0 message(s) in the outbox

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

Message ID: 0
From: gokhankaya
To: gizemsungu
Message: This homework is too easy!
```

```
Viewing sibulgulmez's profile...
-----
ID: 1
Username: sibulgulmez
Location: Istanbul
Birth date: 11.11.2000
sibulgulmez is following 2 account(s) and has 1follower(s)
The followers of sibulgulmez are: gokhankaya,
sibulgulmez is following: gizemsungu,gokhankaya,
sibulgulmez has 2 posts

Viewing sibulgulmez's posts...
(Post ID :0) : I like Java.
(Post ID :1) : Java the coffee...

Viewing sibulgulmez's posts's interactions...
-----
(Post ID: 0) : I like Java.
The post was liked by the following account(s): gokhankaya,
Comment 1:'gokhankaya' said 'me too...'

-----
(Post ID: 1) : Java the coffee...
The post no likes.
The post no comments.

Like was created

Like was created

Viewing sibulgulmez's posts's interactions...
-----
(Post ID: 0) : I like Java.
The post was liked by the following account(s): gokhankaya, gizemsungu,
Comment 1:'gokhankaya' said 'me too...'

-----
(Post ID: 1) : Java the coffee...
The post was liked by the following account(s): gizemsungu,
The post no comments.

gizemsungu logout in the system
```

```
gizemsungu logged in the system...
Post is creating...
Post is creating...
gizemsungu logout in the system
sibelgulmez logged in the system...
Viewing gizemsungu's profile...
-----
ID: 0
Username: gizemsungu
Location: Istanbul
Birth date: 11.11.2000
gizemsungu is following 0 account(s) and has 2follower(s)
The followers of gizemsungu are: sibelgulmez,gokhankaya,
gizemsungu has 2 posts

Like was created

sibelgulmez logout in the system
gokhankaya logged in the system...
Viewing gizemsungu's profile...
-----
ID: 0
Username: gizemsungu
Location: Istanbul
Birth date: 11.11.2000
gizemsungu is following 0 account(s) and has 2follower(s)
The followers of gizemsungu are: sibelgulmez,gokhankaya,
gizemsungu has 2 posts

Comment was created

Message was sended

gokhankaya logout in the system
gizemsungu logged in the system...
Viewing gizemsungu's profile...
-----
ID: 0
Username: gizemsungu
Location: Istanbul
Birth date: 11.11.2000
gizemsungu is following 0 account(s) and has 2follower(s)
The followers of gizemsungu are: sibelgulmez,gokhankaya,
gizemsungu has 2 posts

Message ID: 0
From: gokhankaya
To: gizemsungu
Message: This homework iş too easy!

Message ID: 1
From: gokhankaya
To: gizemsungu
Message: Hello

gizemsungu logout in the system
```

```
gizemsungu logged in the system...

You blocked to sibelgulmez

gizemsungu logout in the system

sibelgulmez logged in the system...

You have been blocked by the user.
You have been blocked by the user.
gizemsungu logged in the system...

This user is already logged in
You cannot follow yourself...
You cannot send a message yourself!
User not found...
User not found...
The user cannot found...
Please log in
```

## TestClass4 Running Commands Results

```
/*=====
test0.login();

test0.create_new_post("Test 0 user posted test 0",0);
test0.create_new_post("Test 0 user posted test 1",1);
test0.follow_someone(user_accounts,"test1");
test0.follow_someone(user_accounts,"test2");
test0.follow_someone(user_accounts,"test3");
test0.follow_someone(user_accounts,"test4");
test0.follow_someone(user_accounts,"test5");
test0.add_comment_post(user_accounts,0,"i commented myself 1 xd");
test0.add_comment_post(user_accounts,0,"i commented myself 2 xd");
test0.view_profile(user_accounts,"test1");
test0.send_message(user_accounts,"test1",0,"hi test1 im test 0 and this is my first message.");
test0.block_someone(user_accounts,"test2");
test0.block_someone(user_accounts,"test3");
test0.block_someone(user_accounts,"test5");
test0.block_someone(user_accounts,"test8");
test0.unblock_someone(user_accounts,"test3");
test0.show_history();

test0.logout();
=====*/
test1.login();
test1.like_a_post(user_accounts,"test0",0);
test1.like_a_post(user_accounts,"test0",1);
test1.logout();

=====*/
test2.login();

test2.follow_someone(user_accounts,"test0");

test2.create_new_post("Test2 user posted test 0",2);
test2.create_new_post("Test2 user posted test 1",3);
test2.create_new_post("Test2 user posted test 2",4);
test2.create_new_post("Test2 user posted test 3",5);
test2.create_new_post("Test2 user posted test 4",6);
test2.create_new_post("Test2 user posted test 5",7);
test2.create_new_post("Test2 user posted test 6",8);
test2.create_new_post("Test2 user posted test 7",9);

test2.send_message(user_accounts,"test0",1,"please unblock me !!!");

test2.show_history();
test2.logout();

=====*/
```

```
/*=====
 test3.login();

test3.add_comment_post(user_accounts,4,"test");
test3.add_comment_post(user_accounts,4,"test");
test3.add_comment_post(user_accounts,4,"test");
test3.add_comment_post(user_accounts,4,"test");
test3.add_comment_post(user_accounts,4,"test");
test3.add_comment_post(user_accounts,4,"test");
test3.add_comment_post(user_accounts,4,"test");
test3.add_comment_post(user_accounts,4,"test");
test3.uncomment_post(user_accounts,"test2",4);
test3.uncomment_post(user_accounts,"test2",4);
test3.uncomment_post(user_accounts,"test2",4);
test3.uncomment_post(user_accounts,"test2",4);
test3.uncomment_post(user_accounts,"test2",4);
test3.like_a_post(user_accounts,"test2",2);
test3.like_a_post(user_accounts,"test2",3);
test3.like_a_post(user_accounts,"test2",4);
test3.like_a_post(user_accounts,"test2",5);
test3.unlike_a_post(user_accounts,"test2",2);
test3.unlike_a_post(user_accounts,"test2",3);
test3.show_history();

test3.logout();
=====*/
```

```
/*=====
 test4.login();

test4.like_a_post(user_accounts,"test2",2);
test4.like_a_post(user_accounts,"test2",3);
test4.like_a_post(user_accounts,"test2",4);
test4.like_a_post(user_accounts,"test2",5);
test4.like_a_post(user_accounts,"test2",6);
test4.like_a_post(user_accounts,"test0",0);
test4.add_comment_post(user_accounts,0,"comment");
test4.follow_someone(user_accounts,"test1");
test4.follow_someone(user_accounts,"test2");
test4.follow_someone(user_accounts,"test3");
test4.follow_someone(user_accounts,"test5");
test4.follow_someone(user_accounts,"test6");
test4.follow_someone(user_accounts,"test7");
test4.follow_someone(user_accounts,"test8");
test4.follow_someone(user_accounts,"test9");
test4.unfollow_someone(user_accounts,"test1");
test4.unfollow_someone(user_accounts,"test2");
test4.create_new_post("test4 user post test0",10);
test4.show_history();

test4.logout();
=====*/
```

```
/*=====
test5.login();

test5.follow_someone(user_accounts,"test1");
test5.follow_someone(user_accounts,"test3");
test5.follow_someone(user_accounts,"test5");
test5.follow_someone(user_accounts,"test7");
test5.unfollow_someone(user_accounts,"test3");
test5.like_a_post(user_accounts,"test2",3);
test5.like_a_post(user_accounts,"test2",5);
test5.like_a_post(user_accounts,"test2",4);
test5.unlike_a_post(user_accounts,"test2",3);
test5.add_comment_post(user_accounts,0,"comment test5");
test5.add_comment_post(user_accounts,3,"comment test5");
test5.add_comment_post(user_accounts,4,"comment test5");
test5.uncomment_post(user_accounts,"test0",0);
test5.show_history();

test5.logout();
/*=====

test1.login();
test1.unblock_someone(user_accounts,"test5");
test1.logout();

test0.login();
test0.unblock_someone(user_accounts,"test5");
test0.logout();

test5.login();
test5.add_comment_post(user_accounts,0,"comment test5");
test5.follow_someone(user_accounts,"test0");
test5.follow_someone(user_accounts,"test1");
test5.uncomment_post(user_accounts,"test0",0);
test5.show_history();
test5.logout();

/*=====

test6.login();
test6.add_comment_post(user_accounts,3,"comment test6");
test6.like_a_post(user_accounts,"test4",10);
test6.like_a_post(user_accounts,"test2",4);
test6.follow_someone(user_accounts,"test4");
test6.show_history();
test6.logout();

/*=====
```

```

/*=====
test7.login();

test7.add_comment_post(user_accounts,3,"comment test 7");
test7.like_a_post(user_accounts,"test4",10);
test7.like_a_post(user_accounts,"test2",4);
test7.follow_someone(user_accounts,"test2");
test7.follow_someone(user_accounts,"test5");
test7.follow_someone(user_accounts,"test6");
test7.follow_someone(user_accounts,"test9");
test7.unfollow_someone(user_accounts,"test5");
test7.unfollow_someone(user_accounts,"test9");
test7.add_comment_post(user_accounts,3,"comment test7");
test7.add_comment_post(user_accounts,3,"comment test7");
test7.add_comment_post(user_accounts,4,"comment test7");
test7.add_comment_post(user_accounts,0,"comment test7");
test7.uncomment_post(user_accounts,"test0",0);
test7.unlike_a_post(user_accounts,"test2",4);
test7.show_history();

test7.logout();
=====*/

```

```

/*=====
test8.login();

test8.create_new_post("test8 post.",11);
test8.block_someone(user_accounts,"test0");
test8.block_someone(user_accounts,"test1");
test8.block_someone(user_accounts,"test2");
test8.block_someone(user_accounts,"test3");
test8.block_someone(user_accounts,"test4");
test8.block_someone(user_accounts,"test5");
test8.block_someone(user_accounts,"test6");
test8.block_someone(user_accounts,"test7");
test8.block_someone(user_accounts,"test8");
test8.block_someone(user_accounts,"test9");
test8.unblock_someone(user_accounts,"test9");
test8.show_history();
test8.logout();
=====*/

```

```

/*=====
test9.login();

test9.add_comment_post(user_accounts,11,"comment test9");
test9.show_history();

test9.logout();
=====*/
test1.login();

test1.add_comment_post(user_accounts,11,"comment test 1");
test1.show_history();

test1.logout();
=====*/
test1.login();

test1.get_all_interactions(user_accounts,"test0");
test1.get_all_interactions(user_accounts,"test1");
test1.get_all_interactions(user_accounts,"test2");
test1.get_all_interactions(user_accounts,"test3");
test1.get_all_interactions(user_accounts,"test4");
test1.get_all_interactions(user_accounts,"test5");
test1.get_all_interactions(user_accounts,"test6");
test1.get_all_interactions(user_accounts,"test7");
test1.get_all_interactions(user_accounts,"test8");
test1.get_all_interactions(user_accounts,"test9");

test1.logout();
=====*/

```

## **TestClass4 Results**

```
test0 logged in the system...
Post is creating...
Post is creating...
Following test1...
Following test2...
Following test3...
Following test4...
Following test5...
Comment was created
Comment was created
Viewing test1's profile...
-----
ID: 1
Username: test1
Location: Istanbul
Birth date: 11.11.2000
test1 is following 0 account(s) and has 1follower(s)
The followers of test1 are: test0,
test1 has 0 posts

Message was sended

You blocked to test2

Unfollowing test2
You unfollowed test2
You blocked to test3

Unfollowing test3
You unfollowed test3
You blocked to test5

Unfollowing test5
You unfollowed test5
The unblock of the user name test3 has been unblocked

Your history

You followed test1
You followed test2
You followed test3
You followed test4
You followed test5
You commented gokhankaya's post id : 0
You commented gokhankaya's post id : 0
You unfollowed test2
You unfollowed test3
You unfollowed test5
test0 logout in the system

test1 logged in the system...

Like was created

Like was created

test1 logout in the system
```

```
test4 logged in the system...

Like was created

Comment was created

Following test1...

Following test2...

Following test3...

Following test5...

Following test6...

Following test7...

Following test8...

Following test9...

Unfollowing test1
You unfollowed test1
Unfollowing test2
You unfollowed test2
Post is creating...

Your history

You liked test2's post id: 2
You liked test2's post id: 3
You liked test2's post id: 4
You liked test2's post id: 5
You liked test2's post id: 6
You liked test0's post id: 0
You commented gohkankaya's post id : 0
You followed test1
You followed test2
You followed test3
You followed test5
You followed test6
You followed test7
You followed test8
You followed test9
You unfollowed test1
You unfollowed test2
test4 logout in the system
```

```
test5 logged in the system...
Following test1...
Following test3...
You cannot follow yourself...
Following test7...

Unfollowing test3
You unfollowed test3
Like was created

Like was created

Like was created

Unlike process completed
BLOCKED
Comment was created

Comment was created

Your history

You followed test1
You followed test3
You followed test7
You unfollowed test3
You liked test2's post id: 3
You liked test2's post id: 5
You liked test2's post id: 4
You commented gokhankaya's post id : 3
You commented gokhankaya's post id : 4
test5 logout in the system
```

```
test1 logged in the system...
You haven't already blocked someone like that
test1 logout in the system

test0 logged in the system...

The unblock of the user name test5 has been unblocked
test0 logout in the system

test5 logged in the system...

Comment was created

Following test0...

You already followed this user before

Your history

You followed test1
You followed test3
You followed test7
You unfollowed test3
You liked test2's post id: 3
You liked test2's post id: 5
You liked test2's post id: 4
You commented gokhankaya's post id : 3
You commented gokhankaya's post id : 4
You commented gokhankaya's post id : 0
You followed test0
You uncomment test0's post id: 0
test5 logout in the system
```

```
test6 logged in the system...
Comment was created
Like was created
Like was created
Following test4...

Your history

You commented gokhankaya's post id : 3
You liked test4's post id: 10
You liked test2's post id: 4
You followed test4
test6 logout in the system

test7 logged in the system...
Comment was created
Like was created
Like was created
Following test2...
Following test5...
Following test6...
Following test9...

Unfollowing test5
You unfollowed test5
Unfollowing test9
You unfollowed test9
Comment was created

Comment was created
Comment was created
Comment was created
Unlike process completed

Your history

You commented gokhankaya's post id : 3
You liked test4's post id: 10
You liked test2's post id: 4
You followed test2
You followed test5
You followed test6
You followed test9
You unfollowed test5
You unfollowed test9
You commented gokhankaya's post id : 3
You commented gokhankaya's post id : 3
You commented gokhankaya's post id : 4
You commented gokhankaya's post id : 0
You uncomment test0's post id: 0
test7 logout in the system
```

```
test8 logged in the system...
Post is creating...

Unfollowing test8
You unfollowed test8
You blocked to test4

You cannot block to yourself!!
You haven't already blocked someone like that

Your history

test8 logout in the system

test9 logged in the system...

Comment was created

Your history

You commented gokhankaya's post id : 11
test9 logout in the system

test1 logged in the system...

Comment was created

Your history

You liked test0's post id: 0
You liked test0's post id: 1
You commented gokhankaya's post id : 11
test1 logout in the system
```

```
test1 logged in the system...
Viewing test0's posts's interactions...
-----
(Post ID: 0) : Test 0 user posted test 0
The post was liked by the following account(s): test1, test4.

Comment 1:'test0' said 'i commented myself 1 xd'
Comment 2:'test0' said 'i commented myself 2 xd'
Comment 3:'test4' said 'comment'

-----
(Post ID: 1) : Test 0 user posted test 1
The post was liked by the following account(s): test1.

The post no comments.

Viewing test1's posts's interactions...
There are no like interactions on test1's profile.
Viewing test2's posts's interactions...
-----
(Post ID: 2) : Test2 user posted test 0
The post was liked by the following account(s): test4.

The post no comments.

-----
(Post ID: 3) : Test2 user posted test 1
The post was liked by the following account(s): test4.

Comment 1:'test5' said 'comment test5'
Comment 2:'test6' said 'comment test6'
Comment 3:'test7' said 'comment test 7'
Comment 4:'test7' said 'comment test7'
Comment 5:'test7' said 'comment test7'

-----
(Post ID: 4) : Test2 user posted test 2
The post was liked by the following account(s): test3, test4, test5, test6.

Comment 1:'test3' said 'test'
Comment 2:'test3' said 'test'
Comment 3:'test3' said 'test'
Comment 4:'test5' said 'comment test5'
Comment 5:'test7' said 'comment test7'

-----
(Post ID: 5) : Test2 user posted test 3
The post was liked by the following account(s): test3, test4, test5.

The post no comments.

-----
(Post ID: 6) : Test2 user posted test 4
The post was liked by the following account(s): test4.

The post no comments.
```

```
-----
(Post ID: 7) : Test2 user posted test 5
The post no likes.
The post no comments.

-----
(Post ID: 8) : Test2 user posted test 6
The post no likes.
The post no comments.

-----
(Post ID: 9) : Test2 user posted test 7
The post no likes.
The post no comments.

Viewing test3's posts's interactions...
There are no like interactions on test3's profile.
Viewing test4's posts's interactions...
-----
(Post ID: 10) : test4 user post test0
The post was liked by the following account(s): test6, test7.

The post no comments.

Viewing test5's posts's interactions...
There are no like interactions on test5's profile.
Viewing test6's posts's interactions...
There are no like interactions on test6's profile.
Viewing test7's posts's interactions...
There are no like interactions on test7's profile.
Viewing test8's posts's interactions...

-----
(Post ID: 11) : test8 post.
The post no likes.
Comment 1:'test9' said 'comment test9'

Comment 2:'test1' said 'comment test 1'

Viewing test9's posts's interactions...
There are no like interactions on test9's profile.
test1 logout in the system
```

## Experimental running time analysis (with the table)

Implementation Type	Scenario 1	Scenario 2	Scenario 3	Scenario 4
Basic Array Structure (HW1)	<b>0.0124</b>	<b>0.0133</b>	<b>0.0138</b>	Not available
ArrayList Structure (a)	<b>0.0117</b>	<b>0.0127</b>	<b>0.0135</b>	<b>0.0131</b>
Linked List Structure (b)	<b>0.0103</b>	<b>0.011</b>	<b>0.0118</b>	<b>0.0128</b>
LD Linked List Structure (c)	<b>0.0126</b>	<b>0.0131</b>	<b>0.0112</b>	<b>0.0123</b>

## Time complexity analysis

The time complexity of all parts is the same. Therefore, instead of examining the time complexity of the functions separately, I will analyze them collectively at once.

### The time complexity of

'view\_profile' function inside the 'Account' class →  $O(N + M)$ , N is number of Accounts, M is number of user's blocked accounts

'check\_blocked\_account' function inside the 'Account' class →  $O(N)$ , N is number of user's blocked accounts

'view\_user\_posts' function inside the 'Account' class →  $O(N + M)$ , N is number of Accounts, M is number of user's posts

'follow\_someone' function inside the 'Account' class →  $O(N + M + P)$ , N is number of Accounts, M is number of user's blocked accounts and P is number of other account's followers.

'check\_follow\_state' function inside the 'Account' class →  $O(N)$ , N is number of followers

'check\_follower\_state' function inside the 'Account' class →  $O(N)$ , N is number of following

'unfollow\_someone' function inside the 'Account' class →  $O(N + M)$ , N is number of Accounts, M is number of other account's followers.

'remove\_follower' function inside the 'Account' class →  $O(N)$ , N is number of followers.

'print\_followers' function inside the 'Account' class →  $O(N)$ , N is number of followers.

'print\_follows' function inside the 'Account' class →  $O(N)$ , N is number of following.

'unlike\_a\_post' function inside the 'Account' class →  $O(N + M + P)$ , N is number of Accounts, M is number of user's posts and P is number of other size of post's likes.

'like\_a\_post' function inside the 'Account' class →  $O(N + M + P)$ , N is number of Accounts, M is number of user's posts and P is number of other size of post's likes.

'add\_comment\_post' function inside the 'Account' class →  $O(N * (M + P))$ , N is number of Accounts, M is number of user's posts and P is number of size of other account's blocked list.

'send\_message' function inside the 'Account' class →  $O(N + M)$ , N is number of Accounts, M is number of user's blocked accounts.

'print\_outbox\_message' function inside the 'Account' class →  $O(N)$ , N is number of Account's messages.

'print\_inbox\_message' function inside the 'Account' class →  $O(N)$ , N is number of Account's messages.

## **Problem Solution Approach for LDLinkedList:**

In this part, we were asked to write a linked list that performs data deletion using the Lazy Deletion Strategy, which extends the List interface and AbstractList. The name of this Linked List is requested to be LDLinkedList. Firstly, I created the class using the interface and abstract list, and then I created a subclass named Node inside this class. These Nodes will be connected to each other and will hold our data. Then, I created the methods I will use.

For the deletion process, I developed my own algorithm. If the number of elements with 'isdeleted = true' is equal to 2, the deletion is physically performed. However, if it is less than 2, this node is marked with the 'isDeleted' expression. We needed to pay attention to this when using the get method because the first deletion process actually does not perform a real deletion, but instead marks it. With another method I wrote, all marked nodes in our LinkedList are physically deleted. With this approach, I was able to achieve the correct result.