

GTU DEPARTMENT OF  
COMPUTER ENGINEERING

CSE 222 – SPRING 20223  
HOMEWORK REPORT

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# SYSTEM REQUIREMENTS

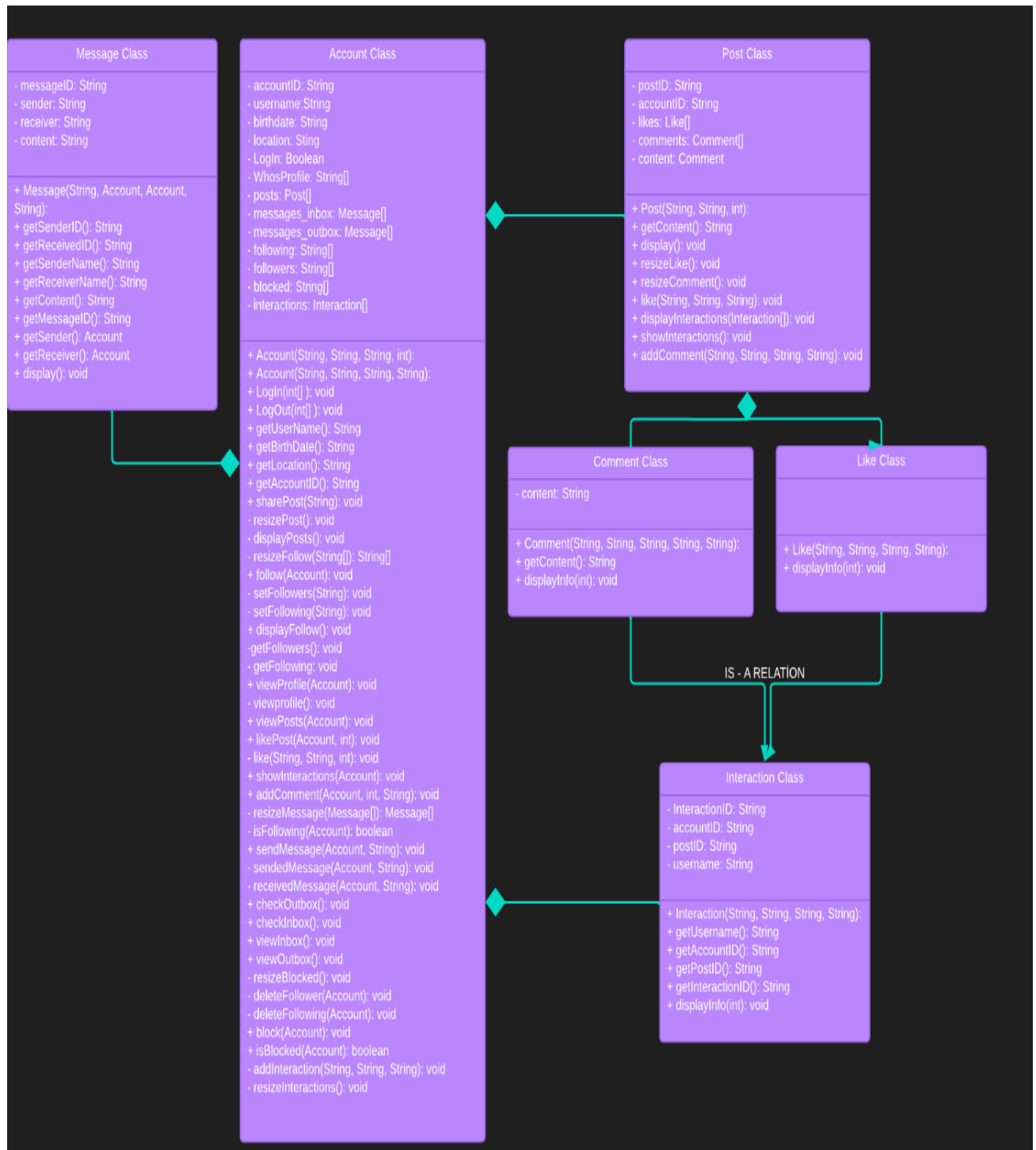
The system is the basic social media software. In this system, each user can perform some basic actions like sharing posts, adding comment to posts, liking other users posts, following other users, sending and receiving message and blocking someone after create a personal account.

Some of basic actions have preconditions. First of all, before any action, user must be logged in. Only one user can log in to system each time. And secondly to interact with any user, you should not be blocked. To send a message, user should be followed. To view posts, likes or comments, user should view the profile. To add a comment or like, user should view posts, then user can add like or comment to posts.

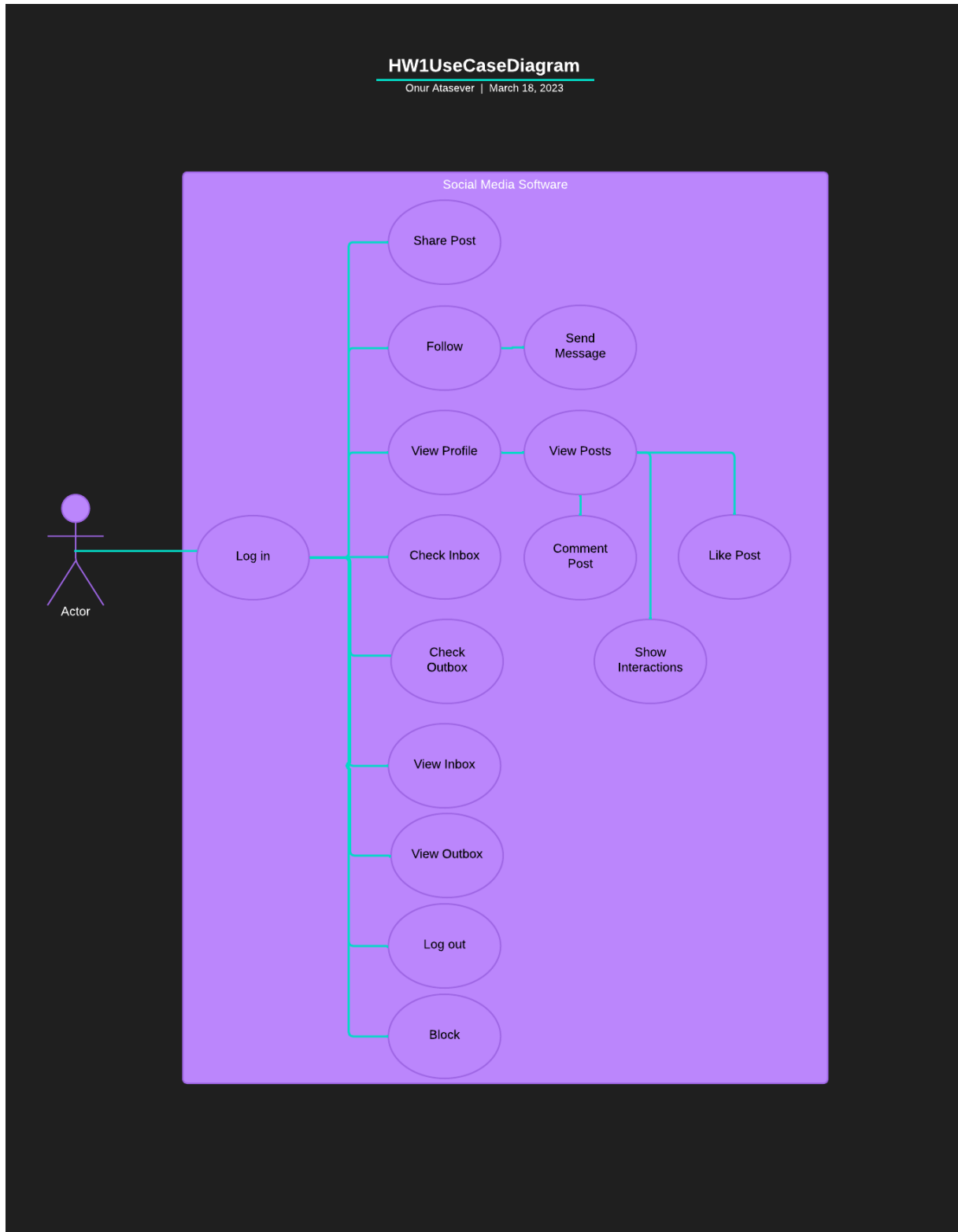
System requirements are Account, Post, Message, Like, Comment and Interaction classes. Base class of this system is Account. It contains details of user, following/follower array, Post array, Message array, blocked people array and Interaction array. Following, sending and receiving message, sharing post, liking post, adding comment to a post, blocking any user functions are belong to this Account class. Post class is specific for each post. Post class has Comment and Like array which are derived form Interaction class. So each liking and adding comment are an interaction and all these interactions are adding to Interaction array which is in Account class. Message, Like, Comment and Interaction class contains details about themselves.

# USE CASE AND CLASS DIAGRAMS

## Class Diagram:



# Use Case Diagram:



# PROBLEM SOLUTION APPROACH

In this assignment, we were asked to design a basic social media software. Classes and variables which are inside classes were decided before. In this application, each user can perform some basic actions like sharing posts, adding comment to posts, liking other users posts, following other users, sending and receiving message and blocking someone after create a personal account.

Since our Account class is main class for this application, i decided to create and implement methods. To perform basic operations, i created new methods which are related with actions. After create an account object, user should log in to system to perform actions. So i created a method which is controlling if user in system and there is only one user at the system each time. And i defined sharing method to share posts. Each time when user add post, Post array extends and it keeps new post. Then i realized that some operations have preconditions and i decided their priority. I defined follow method before send message method because user should follow the other user who is wanted to send message. And there is same relation between view profile and view posts. Before view posts, user should view profile. And other similar relation is between like, comment and post. User should view the posts before interact (liking, adding comment) with other user's post.

Then i thought that the rest of actions(liking, adding comment, viewing posts) were about posts. And I decided to continue with Post class. I began to create and implement Post Class methods. There were mainly three actions: liking, adding comment, viewing posts. To complete these three actions, I decided to begin to complete Like and Comment classes. Because they were needed for Post classes and

they were short and basic to complete. And before complete Like and Comment class, I completed Interaction class because Like and Comment were going to derive from Interaction Class.

Then I began to complete Message Class, according to given instances we can keep only ID of sender and receiver. And according to output we need their usernames. So there were two options. One of them sending an account array and searching their Account ID to find their username. And other option was keeping their Account object as an instance. And I chose second one.

## TEST CASES

### TEST CASE1:

Step 1: Create 3 accounts with usernames "gizemsungu", "sibelgulmez", and "gokhankaya".

Step 2: Login to the account with username "sibelgulmez".

Step 3: Share two posts.

Step 4: Follow "gizemsungu" and "gokhankaya".

Step 5: Log out from the account.

Step 6: Login to the account with username "gokhankaya".

Step 7: View "sibelgulmez"s profile.

Step 8: View "sibelgulmez"s posts.

Step 9: Like a post of "sibelgulmez".

Step 10: Comment on a post of "sibelgulmez".

Step 11: Follow "sibelgulmez" and "gizemsungu".

Step 12: Send a message to "gizemsungu".

Step 13: Log out from the account.

Step 14: Login to the account with username "gizemsungu".

Step 15: Check the number of messages in the outbox.

Step 16: Check the number of messages in the inbox.

Step 17: View the messages in the inbox.

Step 18: View "sibelgulmez"s profile.

Step 19: View "sibelgulmez"s posts.

Step 20: View "sibelgulmez"s posts' interactions.

Step 21: Like "sibelgulmez"s posts.

Step 22: View "sibelgulmez"s posts' interactions.

#### TEST CASE 2:

Step 1: Create 3 accounts with usernames "gizemsungu", "sibelgulmez", and "gokhankaya".

Step 2: Login to the account with username "sibelgulmez".

Step 3: Share two posts.

Step 4: Follow "gizemsungu" and "gokhankaya".

Step 5: Log out from the account.

Step 6: Login to the account with username "gokhankaya".

Step 7: View "sibelgulmez"s profile.

Step 8: View "sibelgulmez"s posts.

Step 9: Like a post of "sibelgulmez".

Step 10: Comment on a post of "sibelgulmez".

Step 11: Follow "sibelgulmez" and "gizemsungu".

Step 12: Send a message to "gizemsungu".

Step 13: Log out from the account.

Step 14: Login to the account with username "gizemsungu".

Step 15: Check the number of messages in the outbox.

Step 16: Check the number of messages in the inbox.

Step 17: View the messages in the inbox.

Step 18: View "sibelgulmez"s profile.

Step 19: View "sibelgulmez"s posts.

Step 20: View "sibelgulmez"s posts' interactions.

Step 21: Like "sibelgulmez"s posts.

Step 22: View "sibelgulmez"s posts' interactions.

Step 23: "gizemsungu" logs in.

Step 24: Shares a post (let's call it Post1).

Step 25: Shares another post (let's call it Post2).

Step 26: Logs out.

Step 27: "sibelgulmez" logs in.

Step 28: Views the profile of "gizemsungu".

Step 29: Likes Post1.

Step 30: Logs out.

Step 31: "gokhankaya" logs in.

Step 32: Views the profile of "gizemsungu".

Step 33: Comments on Post2 (ex: Nice!").

Step 34: Sends a message to "gizemsungu" (ex: "Hello!")

Step 35: Logs out.

Step 36: "gizemsungu" logs in.

Step 37: Views her own profile.

Step 38: Reads the message from "gokhankaya".

#### TEST CASE 3:

Step 1: Create 3 accounts with usernames "gizemsungu", "sibelgulmez", and "gokhankaya".

Step 2: Login to the account with username "sibelgulmez".

Step 3: Share two posts.

Step 4: Follow "gizemsungu" and "gokhankaya".

Step 5: Log out from the account.

Step 6: Login to the account with username "gokhankaya".

Step 7: View "sibelgulmez"s profile.

Step 8: View "sibelgulmez"s posts.

Step 9: Like a post of "sibelgulmez".

Step 10: Comment on a post of "sibelgulmez".

Step 11: Follow "sibelgulmez" and "gizemsungu".

Step 12: Send a message to "gizemsungu".

Step 13: Log out from the account.

Step 14: Login to the account with username "gizemsungu".

Step 15: Check the number of messages in the outbox.

Step 16: Check the number of messages in the inbox.



Step 17: View the messages in the inbox.

Step 18: View "sibelgulmez"s profile.

Step 19: View "sibelgulmez"s posts.

Step 20: View "sibelgulmez"s posts' interactions.

Step 21: Like "sibelgulmez"s posts.

Step 22: View "sibelgulmez"s posts' interactions.

Step 23: "gizemsungu" logs in.

Step 24: Blocks "sibelgulmez".

Step 25: Logs out.

Step 26: "sibelgulmez" logs in.

Step 27: Tries to view the profile of "gizemsungu".

Step 28: Tries to send a message to "gizemsungu".

# RUNNING AND RESULTS

## TEST CASE1:

```
An account with username gizemsungu has been created successfully
An account with username sibelgulmez has been created successfully
An account with username gokhankaya has been created successfully
Logging into an account (username: sibelgulmez)...
Post is shared
Post is shared
Following gizemsungu...
Following gokhankaya...
Logging out from account 'sibelgulmez'...
Logging into an account (username: gokhankaya)...
Viewing sibelgulmez's profile...
-----
User ID:2
Username: sibelgulmez
Location: Istanbul
Birthdate: 10.03.1995
sibelgulmez has 0 followers
sibelgulmez is following 2 account(s)
sibelgulmez is following :gizemsungu gokhankaya
sibelgulmez has 2 posts.
Viewing sibelgulmez's posts
-----
(PostID: 1): I like Java.
-----
(PostID: 2): Java the coffe...

Liking 1. post of sibelgulmez
Adding a comment 1. post of sibelgulmez
Following sibelgulmez...
Following gizemsungu...
Sending a message to gizemsungu...
Logging out from account 'gokhankaya'...
Logging into an account (username: gizemsungu)...
...Checking Outbox...
There is/are 0 in the outbox.
...Checking Inbox...
There is/are 1 in the inbox.
```

```

...Viewin Inbox...
-----
Message ID: 0
From: gokhankaya
To: gizemsungu
Message: this homework is too easy(!)
Viewing sibelgulmez's profile...
-----
User ID:2
Username: sibelgulmez
Location: Istanbul
Birthdate: 10.03.1995
sibelgulmez has 1 followers
The followers of sibelgulmez are:gokhankaya
sibelgulmez is following 2 account(s)
sibelgulmez is following :gizemsungu gokhankaya
sibelgulmez has 2 posts.
Viewing sibelgulmez's posts
-----
(PostID: 1): I like Java.

-----
(PostID: 2): Java the coffe...

sibelgulmez 's post Interactions...
-----
(PostID: 1): I like Java.

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 coffe...

Post has no likes
The post has 0 comment(s)...

```

```

Liking 1. post of sibelgulmez
Liking 2. post of sibelgulmez
sibelgulmez 's post Interactions...
-----
(PostID: 1): I like Java.

The post was liked by the following account(s):  gokhankaya  gizemsungu
The post has 1 comment(s)...
Comment 1: 'gokhankaya' said 'me too!'

-----
(PostID: 2): Java the coffe...

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

```

## TEST CASE 2:

```
An account with username gizemsungu has been created successfully
An account with username sibelgulmez has been created successfully
An account with username gokhankaya has been created successfully
Logging into an account (username: sibelgulmez)...
Post is shared
Post is shared
Following gizemsungu...
Following gokhankaya...
Logging out from account 'sibelgulmez'...
Logging into an account (username: gokhankaya)...
Viewing sibelgulmez's profile...
-----
User ID:2
Username: sibelgulmez
Location: Istanbul
Birthdate: 10.03.1995
sibelgulmez has 0 followers
sibelgulmez is following 2 account(s)
sibelgulmez is following :gizemsungu gokhankaya
sibelgulmez has 2 posts.
Viewing sibelgulmez's posts
-----
(PostID: 1): I like Java.
-----
(PostID: 2): Java the coffe...

Liking 1. post of sibelgulmez
Adding a comment 1. post of sibelgulmez
Following sibelgulmez...
Following gizemsungu...
Sending a message to gizemsungu...
Logging out from account 'gokhankaya'...
Logging into an account (username: gizemsungu)...
...Checking Outbox...
There is/are 0 in the outbox.
...Checking Inbox...
There is/are 1 in the inbox.
```

```
...Viewin Inbox...
-----
Message ID: 0
From: gokhankaya
To: gizemsungu
Message: this homework is too easy(!)
Viewing sibelgulmez's profile...
-----
User ID:2
Username: sibelgulmez
Location: Istanbul
Birthdate: 10.03.1995
sibelgulmez has 1 followers
The followers of sibelgulmez are:gokhankaya
sibelgulmez is following 2 account(s)
sibelgulmez is following :gizemsungu gokhankaya
sibelgulmez has 2 posts.
Viewing sibelgulmez's posts
-----
(PostID: 1): I like Java.

-----
(PostID: 2): Java the coffe...

sibelgulmez 's post Interactions...
-----
(PostID: 1): I like Java.

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 coffe...

Post has no likes
The post has 0 comment(s)...

Liking 1. post of sibelgulmez
Liking 2. post of sibelgulmez
sibelgulmez 's post Interactions...
-----
```

sibelgulmez 's post Interactions...

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

The post was liked by the following account(s): gokhankaya gizemsungu

The post has 1 comment(s)...

Comment 1: 'gokhankaya' said 'me too!'

-----  
(PostID: 2): Java the coffe...

The post was liked by the following account(s): gizemsungu

The post has 0 comment(s)...

gizemsungu you should log out to log in

Post is shared

Post is shared

Logging out from account 'gizemsungu'...

Logging into an account (username: sibelgulmez)...

Viewing gizemsungu's profile...

-----  
User ID:1

Username: gizemsungu

Location: Kocaeli

Birthdate: 24.02.2002

gizemsungu has 2 followers

The followers of gizemsungu are:sibelgulmez gokhankaya

gizemsungu is following 0 account(s)

gizemsungu has 2 posts.

To like post you should enter the profile and then posts. Then you can like

Logging out from account 'sibelgulmez'...

Logging into an account (username: gokhankaya)...

Viewing gizemsungu's profile...

-----  
User ID:1

Username: gizemsungu

Location: Kocaeli

Birthdate: 24.02.2002

gizemsungu has 2 followers

The followers of gizemsungu are:sibelgulmez gokhankaya

gizemsungu is following 0 account(s)

gizemsungu has 2 posts.

Viewing gizemsungu's profile...

-----  
User ID:1

Username: gizemsungu

Location: Kocaeli

Birthdate: 24.02.2002

gizemsungu has 2 followers

The followers of gizemsungu are:sibelgulmez gokhankaya

gizemsungu is following 0 account(s)

gizemsungu has 2 posts.

To add comment post you should enter the profile and then posts. Then you can add comment

Sending a message to gizemsungu...

Logging out from account 'gokhankaya'...

Logging into an account (username: gizemsungu)...

Viewing gizemsungu's profile...

-----  
User ID:1

Username: gizemsungu

Location: Kocaeli

Birthdate: 24.02.2002

gizemsungu has 2 followers

The followers of gizemsungu are:sibelgulmez gokhankaya

gizemsungu is following 0 account(s)

gizemsungu has 2 posts.

...Checking Inbox...

There is/are 2 in the inbox.

...Viewin Inbox...

-----  
Message ID: 0

From: gokhankaya

To: gizemsungu

Message: this homework is too easy(!)

-----  
Message ID: 1

From: gokhankaya

To: gizemsungu

Message: Ex: Hello!

### TEST CASE 3:

```
An account with username gizemsungu has been created successfully
An account with username sibelgulmez has been created successfully
An account with username gokhankaya has been created successfully
Logging into an account (username: sibelgulmez)...
Post is shared
Post is shared
Following gizemsungu...|
Following gokhankaya...
Logging out from account 'sibelgulmez'...
Logging into an account (username: gokhankaya)...
Viewing sibelgulmez's profile...
-----
User ID:2
Username: sibelgulmez
Location: Istanbul
Birthdate: 10.03.1995
sibelgulmez has 0 followers
sibelgulmez is following 2 account(s)
sibelgulmez is following :gizemsungu gokhankaya
sibelgulmez has 2 posts.
Viewing sibelgulmez's posts
-----
(PostID: 1): I like Java.
-----
(PostID: 2): Java the coffe...

Liking 1. post of sibelgulmez
Adding a comment 1. post of sibelgulmez
Following sibelgulmez...
Following gizemsungu...
Sending a message to gizemsungu...
Logging out from account 'gokhankaya'...
Logging into an account (username: gizemsungu)...
...Checking Outbox...
There is/are 0 in the outbox.
...Checking Inbox...
There is/are 1 in the inbox.
```



```
...Viewin Inbox...
-----
Message ID: 0
From: gokhankaya
To: gizemsungu
Message: this homework is too easy(!)
Viewing sibelgulmez's profile...
-----
User ID:2
Username: sibelgulmez
Location: Istanbul
Birthdate: 10.03.1995
sibelgulmez has 1 followers
The followers of sibelgulmez are:gokhankaya
sibelgulmez is following 2 account(s)
sibelgulmez is following :gizemsungu gokhankaya
sibelgulmez has 2 posts.
Viewing sibelgulmez's posts
-----
(PostID: 1): I like Java.

-----
(PostID: 2): Java the coffe...

sibelgulmez 's post Interactions...
-----
(PostID: 1): I like Java.

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 coffe...

Post has no likes
The post has 0 comment(s)...

Liking 1. post of sibelgulmez
Liking 2. post of sibelgulmez
sibelgulmez 's post Interactions...
```

```
sibelgulmez 's post Interactions...
-----
(PostID: 1): I like Java.

The post was liked by the following account(s):  gokhankaya  gizemsungu
The post has 1 comment(s)...
Comment 1: 'gokhankaya' said 'me too!'

-----
(PostID: 2): Java the coffe...

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

gizemsungu you should log out to log in
gizemsungu has blocked sibelgulmez
Logging out from account 'gizemsungu'...
Logging into an account (username: sibelgulmez)...
User can not found
User can not found
```

