

# **GTU Department of Computer Engineering**

**CSE 222/505 - Spring 2023**

Homework #1 Report

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## **1) SYSTEM REQUIREMENTS**

We are asked to design and implement basic social media software that provides sharing posts with people. The program was developed in the specified java versions:

openjdk version "16.0.1" 2021-04-20

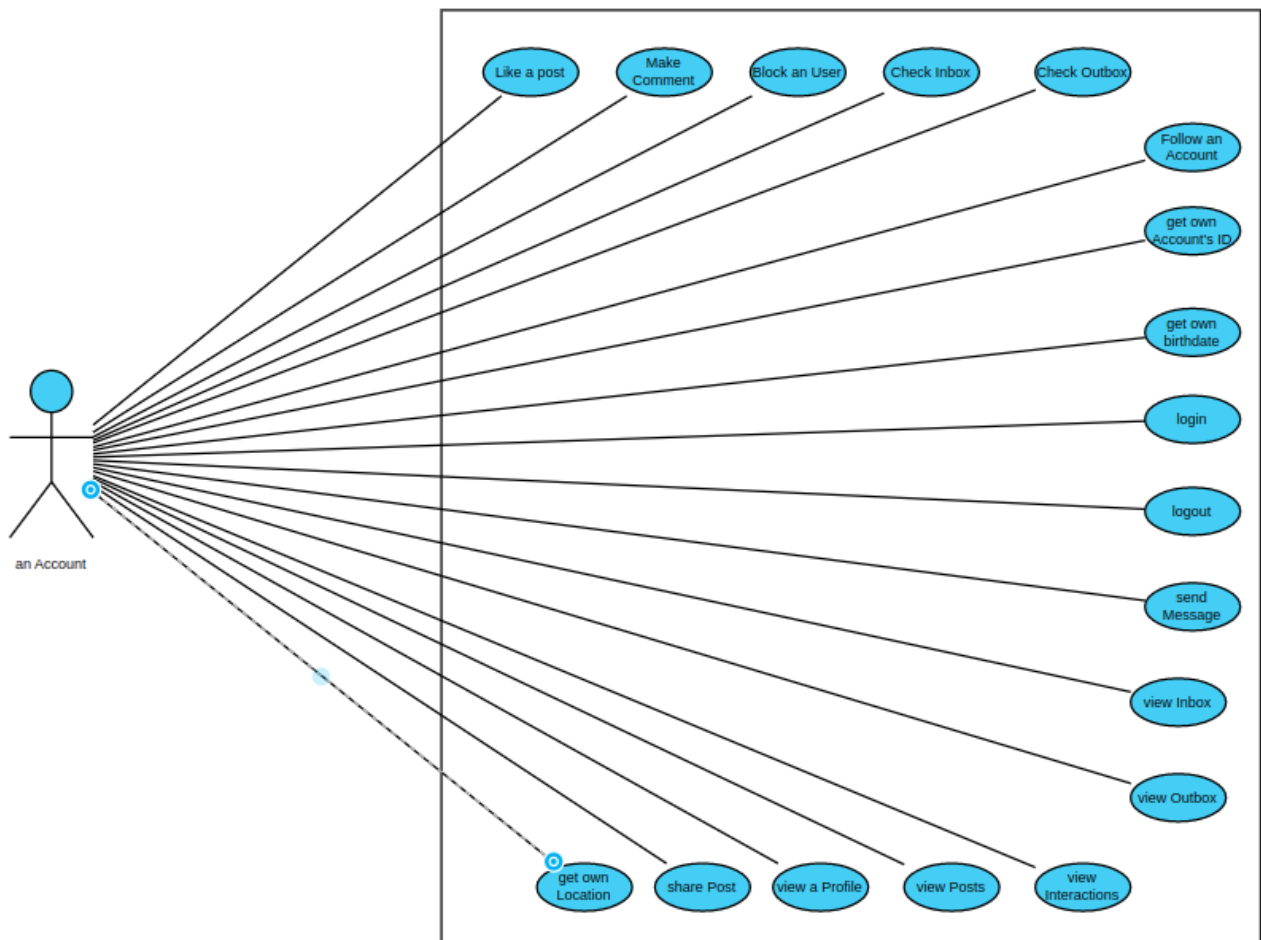
OpenJDK Runtime Environment (build 16.0.1+9-Ubuntu-120.04)

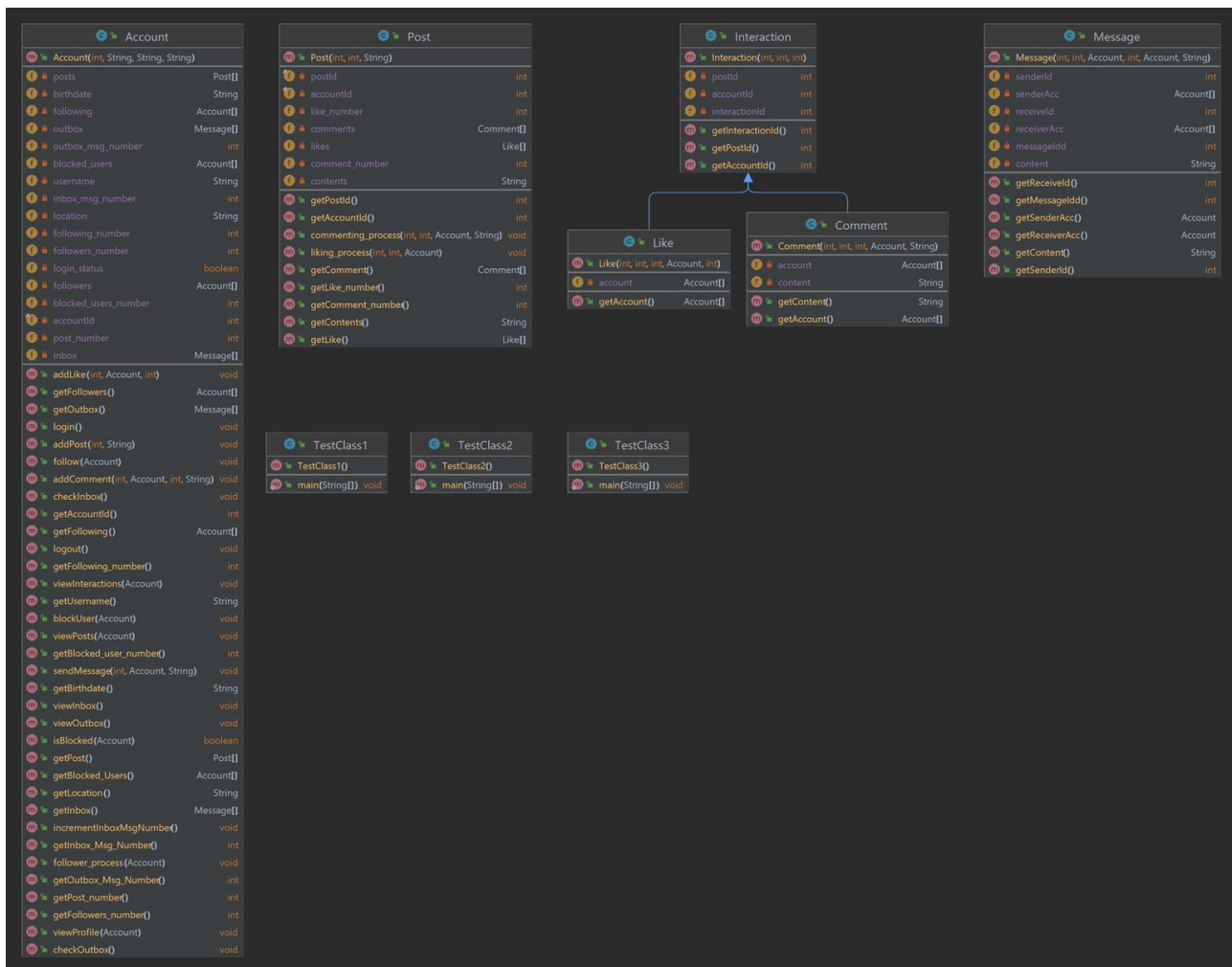
OpenJDK 64-Bit Server VM (build 16.0.1+9-Ubuntu-120.04, mixed mode, sharing)

The system is a social media platform that allows users to create an account, share posts, follow other users, view profiles, send and receive messages, and block users. The system requires users to provide a username, birthdate, and location when creating an account. Users must log in to access the system's features. The system also allows users to block other users. The system should maintain the following information for each user:

- User ID
- Username
- Birthdate
- Location
- Posts
- Following Accounts
- Followers
- Inbox (Messages Received)
- Outbox (Messages Sent)
- Blocked Accounts

## **2)USE CASE DIAGRAM**





### **3) Problem solutions approach**

First, an account needs to be created with the necessary information. In order for the account to perform actions, it must first log in. Whether or not a user has logged in is checked using the `login_status` variable stored in the Account class. If any method is attempted to be executed without logging in, the system will issue a warning. Multiple users can log into the system at the same time. It is not necessary to follow an account to view its profile or posts. However, in order to send a message to another account, that account must be followed. The people a user is following are stored in an array called "following," while the user's followers are stored in an array called "followers." An account can block another account, which will prevent that account from accessing any information from the blocking account. The blocked accounts are stored in an array called "blocked\_users." Accounts can share new posts using the "addPost()" method. All posts shared by an account are stored in an array called "posts," and can be viewed, liked, and commented on by other accounts. Information about the number of likes and comments, as well as the people who liked and commented on the post, are stored in the Post class. Accounts can also send messages to

each other, with sent messages being stored in the "outbox" array of the sender and received messages being stored in the "inbox" array of the recipient.

#### **4)TEST CASES**

To see the Test Cases, run TestClass1, TestClass2 and TestClass3 according to the instructions in a "RUNNING COMMAND AND RESULTS" section

#### **5)RUNNING COMMAND AND RESULTS**

The project files are in the package named homework1. While in the directory where the homework1 package is located, compile the files by entering the following command. :

```
javac *.java
```

Then go to the previous directory from the homework1 package by entering the following command:

```
cd..
```

Enter the following commands here, depending on which class you want to run:

```
java homework1.TestClass1
```

```
java homework1.TestClass2
```

```
java homework1.TestClass3
```

Output of java homework1.TestClass1:

pentagon@Pentagon: ~/Desktop/UNI/2. sene/CSE 22... x    pentagon@Pentagon: ~/Desktop/UNI/2. sene/CSE 22... x

```
pentagon@Pentagon:~/Desktop/UNI/2. sene/CSE 222-DATA/homeworks/hw1/homework1$ javac *.java
pentagon@Pentagon:~/Desktop/UNI/2. sene/CSE 222-DATA/homeworks/hw1/homework1$ cd ..
pentagon@Pentagon:~/Desktop/UNI/2. sene/CSE 222-DATA/homeworks/hw1$ java homework1.TestClass1
```

Step 1...Creating accounts...

An account with username Gizem Süngü has been created.  
An account with username Sibel Gülmez has been created.  
An account with username Gökhan Kaya has been created.

Step 2...

Logging into an account (username: Sibel Gülmez).

Step 3... Sharing two posts...

The post has been shared: I like Java.  
The post has been shared: Java is better than coffee

Step 4...Following gizemsungu and gokhankaya...

You are following Gizem Süngü  
You are following Gökhan Kaya

Step 5...

Logging out from account 'Sibel Gülmez'.

Step 6...

Logging into an account (username: Gökhan Kaya).

Step 7...

...Viewing Sibel Gülmez's profile...

-----

User ID: 1  
Username: Sibel Gülmez  
Location: Gebze  
Birth Date: 07.05.1996  
Sibel Gülmez is following 2 account(s) and has 0 follower(s)  
The followers of Sibel Gülmez are:  
Sibel Gülmez is following: Gizem Süngü, Gökhan Kaya,  
Sibel Gülmez has 2 posts

Step 8...

...Viewing Sibel Gülmez 's posts...  
(PostID: 0) Sibel Gülmez: I like Java.  
(PostID: 1) Sibel Gülmez: Java is better than coffee

Step 9...  
Liking a post of Sibel Gülmez...

Step 10...  
Adding a comment on a post of Sibel Gülmez : me too!...  
Adding a comment on a post of Sibel Gülmez : Absolutely I agree...

Step 11...  
You are following Sibel Gülmez  
You are following Gizem Süngü

Step 12...  
Sending a message to Gizem Süngü...: This homework is too easy

Step 13...  
Logging out from account 'Gökhan Kaya'.

Step 14...  
Logging into an account (username: Gizem Süngü).

Step 15...Checking outbox...  
There is/are 0 message(s) in the outbox.

Step 16...Checking inbox...  
There is/are 1 message(s) in the inbox.

Step 17...  
...Viewing inbox...  
-----  
Message ID: 0  
From: Gökhan Kaya  
To: Gizem Süngü  
Message: This homework is too easy

Step 18...  
...Viewing Sibel Gülmez's profile...  
-----  
User ID: 1  
Username: Sibel Gülmez  
Location: Gebze  
Birth Date: 07.05.1996  
Sibel Gülmez is following 2 account(s) and has 1 follower(s)  
The followers of Sibel Gülmez are: Gökhan Kaya,

```
Sibel Gülmez is following: Gizem Süngü, Gökhan Kaya,  
Sibel Gülmez has 2 posts
```

```
Step 19...
```

```
...Viewing Sibel Gülmez 's posts...
```

```
(PostID: 0) Sibel Gülmez: I like Java.
```

```
(PostID: 1) Sibel Gülmez: Java is better than coffee
```

```
Step 20...
```

```
Viewing Sibel Gülmez's posts' interactions...
```

```
-----  
(Post Id: 0) : I like Java.
```

```
The post was liked by the following account(s): Gökhan Kaya,
```

```
The post has 1 comment(s)...
```

```
Comment 1: 'Gökhan Kaya' said 'me too!'
```

```
-----  
(Post Id: 1) : Java is better than coffee
```

```
The post has no like. Be the first to like
```

```
The post has 1 comment(s)...
```

```
Comment 1: 'Gökhan Kaya' said 'Absolutely I agree'
```

```
-----  
Step 21...
```

```
Liking a post of Sibel Gülmez...
```

```
Step 22...
```

```
Viewing Sibel Gülmez's posts' interactions...
```

```
-----  
(Post Id: 0) : I like Java.
```

```
The post was liked by the following account(s): Gökhan Kaya, Gizem Süngü,
```

```
The post has 1 comment(s)...
```

```
Comment 1: 'Gökhan Kaya' said 'me too!'
```

```
-----  
(Post Id: 1) : Java is better than coffee
```

```
The post has no like. Be the first to like
```

```
The post has 1 comment(s)...
```

```
Comment 1: 'Gökhan Kaya' said 'Absolutely I agree'
```

```
-----pentagon@Pentagon:~/Desktop/UNI/2. sene/CSE 222-DATA/homeworks/hw1$ █
```

Output of java homework1.TestClass2:



```
-----pentagon@Pentagon:~/Desktop/UNI/2. sene/CSE 222-DATA/homeworks/hw1$ java homework1.TestClass2
```

Step 1...Creating accounts...

An account with username Gizem SÜNGÜ has been created.  
An account with username Sibel GÜLMEZ has been created.  
An account with username Gökhan Kaya has been created.

Step 2...

Logging into an account (username: Sibel GÜLMEZ).

Step 3... Sharing two posts...

The post has been shared: I like Java.  
The post has been shared: Java is better than coffee

Step 4...Following gizemsungu and gokhankaya...

You are following Gizem SÜNGÜ  
You are following Gökhan Kaya

Step 5...

Logging out from account 'Sibel GÜLMEZ'.

Step 6...

Logging into an account (username: Gökhan Kaya).

Step 7...

...Viewing Sibel GÜLMEZ's profile...

-----

User ID: 1

Username: Sibel GÜLMEZ

Location: Gebze

Birth Date: 07.05.1996

Sibel GÜLMEZ is following 2 account(s) and has 0 follower(s)

The followers of Sibel GÜLMEZ are:

Sibel GÜLMEZ is following: Gizem SÜNGÜ, Gökhan Kaya,

Sibel GÜLMEZ has 2 posts

Step 8...

...Viewing Sibel GÜLMEZ 's posts...

(PostID: 0) Sibel GÜLMEZ: I like Java.

(PostID: 1) Sibel GÜLMEZ: Java is better than coffee

Step 9...

Liking a post of Sibel GÜLMEZ...

Step 10...  
Adding a comment on a post of Sibel Gülmez : me too!...  
Adding a comment on a post of Sibel Gülmez : Absolutely I agree...

Step 11...  
You are following Sibel Gülmez  
You are following Gizem Süngü

Step 12...  
Sending a message to Gizem Süngü...: This homework is too easy

Step 13...  
Logging out from account 'Gökhan Kaya'.

Step 14...  
Logging into an account (username: Gizem Süngü).

Step 15...Checking outbox...  
There is/are 0 message(s) in the outbox.

Step 16...Checking inbox...  
There is/are 1 message(s) in the inbox.

Step 17...  
...Viewing inbox...  
-----  
Message ID: 0  
From: Gökhan Kaya  
To: Gizem Süngü  
Message: This homework is too easy

Step 18...  
...Viewing Sibel Gülmez's profile...  
-----  
User ID: 1  
Username: Sibel Gülmez  
Location: Gebze  
Birth Date: 07.05.1996  
Sibel Gülmez is following 2 account(s) and has 1 follower(s)  
The followers of Sibel Gülmez are: Gökhan Kaya,  
Sibel Gülmez is following: Gizem Süngü, Gökhan Kaya,  
Sibel Gülmez has 2 posts

```
Step 19...
...Viewing Sibel Gülmez 's posts...
(PostID: 0) Sibel Gülmez: I like Java.
(PostID: 1) Sibel Gülmez: Java is better than coffee
```

```
Step 20...
Viewing Sibel Gülmez's posts' interactions...
-----
(Post Id: 0) : I like Java.
The post was liked by the following account(s): Gökhan Kaya,
The post has 1 comment(s)...
Comment 1: 'Gökhan Kaya' said 'me too!'
-----
(Post Id: 1) : Java is better than coffee
The post has no like. Be the first to like
The post has 1 comment(s)...
Comment 1: 'Gökhan Kaya' said 'Absolutely I agree'
-----
```

```
Step 21...
Liking a post of Sibel Gülmez...
```

```
Step 22...
Viewing Sibel Gülmez's posts' interactions...
-----
(Post Id: 0) : I like Java.
The post was liked by the following account(s): Gökhan Kaya, Gizem Süngü,
The post has 1 comment(s)...
Comment 1: 'Gökhan Kaya' said 'me too!'
-----
(Post Id: 1) : Java is better than coffee
The post has no like. Be the first to like
The post has 1 comment(s)...
Comment 1: 'Gökhan Kaya' said 'Absolutely I agree'
-----
```

```
Step 23...
The post has been shared: The Java: no nice frameworks, just horrifying definitions and pain.
```

```
Step 24...
The post has been shared: Everybody is chill until StackOverflow says that you are the first one to ask this question.
```

```
Step 25...
Logging out from account 'Gizem Süngü'.
```

```
Step 26...
```

Thunderbird Mail

Logging into an account (username: Sibel Gülmez).

Step 27...

...Viewing Gizem SÜNGÜ's profile...

-----

User ID: 0

Username: Gizem SÜNGÜ

Location: Izmir

Birth Date: 01.02.1995

Gizem SÜNGÜ is following 0 account(s) and has 2 follower(s)

The followers of Gizem SÜNGÜ are: Sibel Gülmez, Gökhan Kaya,

Gizem SÜNGÜ is following:

Gizem SÜNGÜ has 2 posts

Step 28...

Liking a post of Gizem SÜNGÜ...

Step 29...

Logging out from account 'Sibel Gülmez'.

Step 30...

Logging into an account (username: Gökhan Kaya).

Step 31...

...Viewing Gizem SÜNGÜ's profile...

-----

User ID: 0

Username: Gizem SÜNGÜ

Location: Izmir

Birth Date: 01.02.1995

Gizem SÜNGÜ is following 0 account(s) and has 2 follower(s)

The followers of Gizem SÜNGÜ are: Sibel Gülmez, Gökhan Kaya,

Gizem SÜNGÜ is following:

Gizem SÜNGÜ has 2 posts

Step 32...

Adding a comment on a post of Gizem SÜNGÜ : Nice!...

Step 33...

Sending a message to Gizem SÜNGÜ...: Hello!

```
Step 34...
Logging out from account 'Gökhan Kaya'.

Step 35...
Logging into an account (username: Gizem Süngü).

Step 36...

...Viewing Gizem Süngü's profile...
-----
User ID: 0
Username: Gizem Süngü
Location: Izmir
Birth Date: 01.02.1995
Gizem Süngü is following 0 account(s) and has 2 follower(s)
The followers of Gizem Süngü are: Sibel Gülmez, Gökhan Kaya,
Gizem Süngü is following:
Gizem Süngü has 2 posts

Step 37...
...Viewing inbox...
-----
Message ID: 0
From: Gökhan Kaya
To: Gizem Süngü
Message: This homework is too easy
-----
Message ID: 1
From: Gökhan Kaya
To: Gizem Süngü
Message: Hello!

Step 38...An attempt will be made to view the profile from the sibel account that is not logged in.
To do this, you must first log into Sibel Gülmez account.pentagon@Pentagon:~/Desktop/UNI/2. sene/CSE 222-DATA/homeworks/hw1$ [
```

Output of java homework1.TestClass3:

Step 1...Creating accounts...

An account with username Gizem Süngü has been created.

An account with username Sibel Gülmez has been created.

An account with username Gökhan Kaya has been created.

Step 2...

Logging into an account (username: Sibel Gülmez).

Step 3... Sharing two posts...

The post has been shared: I like Java.

The post has been shared: Java is better than coffee

Step 4...Following gizemsungu and gokhankaya...

You are following Gizem Süngü

You are following Gökhan Kaya

Step 5...

Logging out from account 'Sibel Gülmez'.

Step 6...

Logging into an account (username: Gökhan Kaya).

Step 7...

...Viewing Sibel Gülmez's profile...

-----

User ID: 1

Username: Sibel Gülmez

Location: Gebze

Birth Date: 07.05.1996

Sibel Gülmez is following 2 account(s) and has 0 follower(s)

The followers of Sibel Gülmez are:

Sibel Gülmez is following: Gizem Süngü, Gökhan Kaya,

Sibel Gülmez has 2 posts

Step 8...

...Viewing Sibel Gülmez 's posts...

(PostID: 0) Sibel Gülmez: I like Java.

(PostID: 1) Sibel Gülmez: Java is better than coffee

Step 9...

Liking a post of Sibel Gülmez...

Step 10...  
Adding a comment on a post of Sibel Gülmez : me too!...  
Adding a comment on a post of Sibel Gülmez : Absolutely I agree...

Step 11...  
You are following Sibel Gülmez  
You are following Gizem Süngü

Step 12...  
Sending a message to Gizem Süngü...: This homework is too easy

Step 13...  
Logging out from account 'Gökhan Kaya'.

Step 14...  
Logging into an account (username: Gizem Süngü).

Step 15...Checking outbox...  
There is/are 0 message(s) in the outbox.

Step 16...Checking inbox...  
There is/are 1 message(s) in the inbox.

Step 17...  
...Viewing inbox...  
-----  
Message ID: 0  
From: Gökhan Kaya  
To: Gizem Süngü  
Message: This homework is too easy

Step 18...  
...Viewing Sibel Gülmez's profile...  
-----  
User ID: 1  
Username: Sibel Gülmez  
Location: Gebze  
Birth Date: 07.05.1996  
Sibel Gülmez is following 2 account(s) and has 1 follower(s)  
The followers of Sibel Gülmez are: Gökhan Kaya,  
Sibel Gülmez is following: Gizem Süngü, Gökhan Kaya,  
Sibel Gülmez has 2 posts

```
Step 19...
...Viewing Sibel Gülmez 's posts...
(PostID: 0) Sibel Gülmez: I like Java.
(PostID: 1) Sibel Gülmez: Java is better than coffee
```

```
Step 20...
Viewing Sibel Gülmez's posts' interactions...
-----
(Post Id: 0) : I like Java.
The post was liked by the following account(s): Gökhan Kaya,
The post has 1 comment(s)...
Comment 1: 'Gökhan Kaya' said 'me too!'
-----
(Post Id: 1) : Java is better than coffee
The post has no like. Be the first to like
The post has 1 comment(s)...
Comment 1: 'Gökhan Kaya' said 'Absolutely I agree'
-----
```

```
Step 21...
Liking a post of Sibel Gülmez...
```

```
Step 22...
Viewing Sibel Gülmez's posts' interactions...
-----
(Post Id: 0) : I like Java.
The post was liked by the following account(s): Gökhan Kaya, Gizem Süngü,
The post has 1 comment(s)...
Comment 1: 'Gökhan Kaya' said 'me too!'
-----
(Post Id: 1) : Java is better than coffee
The post has no like. Be the first to like
The post has 1 comment(s)...
Comment 1: 'Gökhan Kaya' said 'Absolutely I agree'
-----
```

```
Step 23...
You blocked: Sibel Gülmez
```

```
Step 24...
Logging out from account 'Gizem Süngü'.
```

```
Step 25...
Logging into an account (username: Sibel Gülmez).
```

```
Step 26...tries to view the profile of 'gizemsungu'.
You cannot do this. This account has blocked you
```

```
Step 27...tries to send a message to 'gizemsungu'.
You cannot do this. This account has blocked youpentagon@Pentagon:~/Desktop/UNI/2. sene/CSE 222-DATA/homeworks/hw1$
```



