GTU Department of Computer Engineering
CSE 222/505 - Spring 2023
Homework #01 Report

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System Requirements

We need to create account objects as our social media accounts. It requires accountID, user name, birth date and location to create an account. We give these informations as parameters to out constructor function.

```java
Account gizemsungu = new Account(1, "gizemsungu", "19.06.1992", "istanbul");
```

To create a post we need to create a post object and set it's contents as out string parameter.

```java
Post post1 = new Post(1, "I like Java.");
```

To like a post we need to create a like object and give it's parameters as account id that wants to like and post id that account's owner intend to like. (This class extends interaction class)

```java
Like like1 = new Like(1, gokhankaya.getAccountId(), post1.getPostId());
```

To comment on a post we need to create a comment object and give it's parameters as account id that wants to comment and post id that account's owner intend to comment. (This class extends interaction class)

```java
Comment comment1 = new Comment(2, gokhankaya.getAccountId(), post1.getPostId(), "Me too!");
```

To send a message we need to create a message object and set it's parameters as sender and receiver id, and the content we want to send.

```java
Message message1 = new Message(1, 3, 1, "This homework is too easy!");
```

Problem Solution Approach

This homework expects us to implement a basic social media structure that allows us to create new accounts and perform different functions like sending messages, liking or commenting on other accounts' posts and following other accounts.

Since the structure we will build was mostly determined not to be changed in general, there was not much thing extra we needed to add apart from paying attention to some details.

Here are the all requirements i had to implement and perform, and how I solved them:

-Comment and Like subclasses

In order to use the variables of the 'Interaction' class, I wrote these classes to extend the 'Interaction' class and sent the parameters they received to the constructor of the interaction class using super constructor.

-Need to login to perform functions

To check if a person is logged in, I created a new boolean variable named 'isLoggedIn' and hold it's value to control login-logout situations. In other functions 'isLoggedIn' variable is checked if it is 'true' to perform the function.

-Login only one person at a time

In order to keep track of the accounts, I filled the created accounts into a new 'Account' array and when it was necessary to control the accounts, I sent this array as a parameter to the functions.

Login function is one of these function that requires to check other accounts's information. I controlled every other account's login situation using 'isLoggedIn' variable to perform login function. If any other account has been logged in already, there won't be any change and there will be an error message on the screen.

-Can't follow same account twice

I hold followers and followings in different 'Account' arrays and controlled it if some account try to follow an account that's already fbeen followed.

-Need to follow to send message

Controlled 'followings' array to check if somebody tries to send a message to other account that is not in that array.

-Keep track of blocked accounts

For scenario 3, I created an array for blocked accounts and if an account calls 'block' function added that account into their blocked accounts array.

If somebody tries to send a message to other accounts, blocked accounts array is checked to see if their account is in this array.

Test Cases

- *Create a new account object with 'Account' class.*

```
Account gizemsungu = new Account(1, "gizemsungu", "19.06.1992", "istanbul");
```

- *Login-logout accounts and check if there is only one account logged in at a time.*

```
sibelgulmez.login(accounts);
sibelgulmez.logout();
```

- *Create new posts with 'Post' class and share it with 'addPost' funtion.*

```
Post post1 = new Post(1, "I like Java.");
sibelgulmez.addPost(post1);
```

- *Create a new like with 'Like' class and add it into 'likes' object array.*

```
Like like1 = new Like(1, gokhankaya.getAccountId(), post1.getPostId());
post1.addLike(like1);
```

- *Create a new comment with 'Comment' class and add it into 'comments' object array.*

```
Comment comment1 = new Comment(2, gokhankaya.getAccountId(), post1.getPostId(), "Me too!");
post1.addComment(comment1);
```

- *Follow and block other accounts*

```
sibelgulmez.follow(gizemsungu);
gizemsungu.block(sibelgulmez);
```

- *View detailed information about profiles, posts and interactions.*

```
gokhankaya.viewProfile(sibelgulmez);
gokhankaya.viewPosts(sibelgulmez);
gizemsungu.viewInteractions(sibelgulmez, accounts);
```

- *Create a new message with 'Message' class and send it to another accounts.*

```
Message message1 = new Message(1, 3, 1, "This homework is too easy!");
gokhankaya.sendMessage(message1, gizemsungu);
```

- *Check how many messages in the inbox and outbox arrays.*

```
gizemsungu.checkInbox();
gizemsungu.checkOutbox();
```

- *View messages in the inbox*

```
gizemsungu.viewInbox(accounts);
```

Running and Results

```
C:\Users\Administrator\Desktop\OKUL\cse222>java homework1.TestClass1

*****************************************
              SCENARIO 1
*****************************************

Step 1... Creating accounts...
An account with username gizemsungu has been created...
An account with username sibelgulmez has been created...
An account with username gokhankaya has been created...

Step 2... Logging into sibelgulmez's account...

Step 3...
Sharing a post...
Sharing a post...

Step 4...
Following gizemsungu's account...
Following gokhankaya's account...

Step 5... Logging out from sibelgulmez's account...

Step 6... Logging into gokhankaya's account...

Step 7... Viewing sibelgulmez's profile...
---------------------------
User ID: 2
Username: sibelgulmez
Location: bursa
Birth Date: 04.01.1995
sibelgulmez is following 2 account(s) and has 0 followers.
sibelgulmez is folowing: gizemsungu gokhankaya
sibelgulmez has 2 post(s).
---------------------------

Step 8... Viewing sibelgulmez's posts...
---------------------------
(Post ID: 1) sibelgulmez: I like Java.
(Post ID: 2) sibelgulmez: Java the coffee...
---------------------------

Step 9...
Liking a post . . .

Step 10... Adding a comment on a post . . .

Step 11...
Following sibelgulmez's account...
Following gizemsungu's account...

Step 12... Sending a message to gizemsungu...

Step 13... Logging out from gokhankaya's account...

Step 14... Logging into gizemsungu's account...

Step 15... Checking gizemsungu's outbox...
There is 0 messages in the gizemsungu's outbox!

Step 16... Checking gizemsungu's inbox...
There is 1 messages in the gizemsungu's inbox!

Step 17... Viewing gizemsungu's inbox...
---------------------------
Message ID: 1
From: gokhankaya
To: gizemsungu
Message: This homework is too easy!
---------------------------

Step 18... Viewing sibelgulmez's profile...
---------------------------
User ID: 2
Username: sibelgulmez
Location: bursa
Birth Date: 04.01.1995
sibelgulmez is following 2 account(s) and has 1 followers.
sibelgulmez is folowing: gizemsungu gokhankaya
sibelgulmez's followers: gokhankaya
sibelgulmez has 2 post(s).
---------------------------

Step 19... Viewing sibelgulmez's posts...
---------------------------
(Post ID: 1) sibelgulmez: I like Java.
(Post ID: 2) sibelgulmez: Java the coffee...
---------------------------

Step 20... Viewing 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 coffee...
The post has no likes.
The post has 0 comment(s)...
---------------------------

Step 21...
Liking a post . . .
Liking a post . . .
```

```
Step 22... Viewing 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 coffee...
The post was liked by the following account(s): gizemsungu
The post has 0 comment(s)...
---------------------------


*****************************************
              SCENARIO 2
*****************************************

Step 23...
Sharing a post...
Sharing a post...

Step 24... Logging out from gizemsungu's account...

Step 25... Logging into sibelgulmez's account...

Step 26... Viewing gizemsungu's profile...
---------------------------
User ID: 1
Username: gizemsungu
Location: istanbul
Birth Date: 19.06.1992
gizemsungu is following 0 account(s) and has 2 followers.
gizemsungu follows nobody.
gizemsungu's followers: sibelgulmez gokhankaya
gizemsungu has 2 post(s).
---------------------------

Step 27...
Liking a post . . .

Step 28... Logging out from sibelgulmez's account...

Step 29... Logging into gokhankaya's account...

Step 30... Viewing gizemsungu's profile...
---------------------------
User ID: 1
Username: gizemsungu
Location: istanbul
Birth Date: 19.06.1992
gizemsungu is following 0 account(s) and has 2 followers.
gizemsungu follows nobody.
gizemsungu's followers: sibelgulmez gokhankaya
gizemsungu has 2 post(s).
---------------------------

Step 31... Adding a comment on a post . . .

Step 32... Sending a message to gizemsungu...

Step 33... Logging out from gokhankaya's account...

Step 34... Logging into gizemsungu's account...

Step 35... Viewing gizemsungu's profile...
---------------------------
User ID: 1
Username: gizemsungu
Location: istanbul
Birth Date: 19.06.1992
gizemsungu is following 0 account(s) and has 2 followers.
gizemsungu follows nobody.
gizemsungu's followers: sibelgulmez gokhankaya
gizemsungu has 2 post(s).
---------------------------

Step 36... Viewing gizemsungu's inbox...
---------------------------
Message ID: 1
From: gokhankaya
To: gizemsungu
Message: This homework is too easy!
---------------------------
Message ID: 2
From: gokhankaya
To: gizemsungu
Message: Hello!
---------------------------


*****************************************
              SCENARIO 3
*****************************************

Step 37... Blocking sibelgulmez's account...

Step 38... Logging out from gizemsungu's account...

Step 39... Logging into sibelgulmez's account...

Step 40... Sending a message to gizemsungu...
ERROR: You can't send message to gizemsungu, you are BLOCKED!!!
```