

## PhotoBooth

Problem:

Build an application that allows users to post pictures and like pictures posted by others on it. Users may also follow other users.

### Functionalities required:

1. A new user should be able to register to the application.
2. A user should be able to post a picture with a caption. For simplicity, consider the picture as a string value
3. A user should be able to Follow/UnFollow any number of other users of their choice. UnFollow operation is supposed to reverse the Follow operation.
4. A user should be able to Like/Unlike any number of pictures posted by others. Unlike operation is supposed to reverse the Like operation.
5. Any user should be able to see posted pictures by everyone on the app. Pictures should be sorted by created time. (Last created should come first)
6. Show the number of likes on a picture at any point of time.
7. Show list of followers of a user at any point of time.

### **Example:**

#### Sample Data:

*RegisterUser(User1, UserName1); - Register User1*  
*Post(User1, Picture1, caption1); - User1 posts Picture1, caption1*  
*Post(User1, Picture2, caption2); - User1 posts Picture2, caption2*  
*RegisterUser(User2, UserName2); - Register User2*  
*Like(User2, Picture1); - User2 likes Picture1*  
*Follow(User2, User1); - User2 follows User1*  
*RegisterUser(User3, UserName3); - Register User3*  
*Post(User3, Picture3, caption3); - User3 posts Picture3, caption3*  
*RegisterUser(User4, UserName4); - Register User4*  
*RegisterUser(User5, UserName5); - Register User5*  
*Follow(User4, User1); - User4 follows User1*  
*Follow(User5, User1); - User5 follows User1*

#### Case 1:

*Input - showPictures*

*Output - [Picture3,Picture2,Picture1]*

#### Case 2:

*Input - getLikes(Picture1)*

*Output - 1*

#### Case 3:

*Input - getFollowers(User1)*

*Output - [User2, User4, User5]*

**Bonus:**

1. Promote a user to star user if he has more than x followers(For below example x = 2).  
Get star users
2. Show list of users the particular user follows.
3. Show pictures of only those users whom I follow. If I don't follow any user, result should be empty

Case 1:

*Input - showPictures(User2);*

*Output - [Picture2, Picture1]; - Picture3 won't appear because User2 follows User1 and not User3*

Case 2:

*Input - getMyFollowers(User2);*

*Output - [User1]*

Case 3:

*Input - getStarUsers();*

*Output - [User1]*

**Expectations:**

1. The code should be demo-able. Any UI for the application is not needed. Demo by using the main driver program or test cases.
2. Don't waste your time in taking input from the command line. Sample data can be hard-coded in the main class or read from the file.
3. The code should be modular. The code should have the basic OO design. Please do not overlap the responsibilities of classes with each other.
4. The code should handle edge cases properly and fail gracefully.
5. The code should be readable. Code duplication should be minimal.
6. Do not use any database store, use in-memory data structure.
7. Create the sample data yourself. You can put it into a file and read it as required.
8. Focus on required functionalities first before attempting bonus.

**Guidelines:**

1. Please do not access the internet for anything EXCEPT syntax.
2. You are free to use the language and IDE of your choice.
3. The entire code should be your own.

4. In case of any queries/confusions, please get it clarified