News Feed

Task

Your aim is to create a social network that can be used by people to share stuff. Users can share text-based posts, upvote or downvote them or comment on them to start a discussion. The users can comment on comments and upvote and downvote them as well. The users can also follow other users.

When the social network is **run,** any of these 2 things can be done

1. Sign up
2. Login

Both of these operations should take the username as an input.

If the sign-up option is selected then a new user with the given username should be created. If the login option is selected then the user is logged in with the username that is entered. Once successfully logged in, they would see their news feed. A description of displaying the newsfeed follows

Displaying the news feed

Any user can check their news feed. The news feed should be sorted according to the following specification -

1. Items should be sorted by date, time doesn't matter (latest first). Example - An item submitted at 2017-11-27 10:00:00 and an item submitted at 2017-11-27 13:00:00 should have the same priority.
2. If multiple items have the same priority according to the previous rule, the items submitted by the members that the user follows should appear first
3. It there are multiple such items then items with more upvotes by anyone should appear first
4. If there are multiple items with the same priority at this point then they should be sorted according to time (latest first).

Each news item should hold at least the following information:

1. Content of the news feed item
2. Name of the user who posted it
3. Number of upvotes and downvotes
4. Timestamp (Bonus if you display time in language like 1 hr ago, 2 days ago etc.)
5. Comments - Comments made on a specific news feed item should be displayed according to the specifications in the preceding text (If possible use indentation to help for better understanding). For example, if you are using tabs for indentation, the number of tabs used for indentation for any comment should be 1 more than its parent.

Apart from being able to view the newsfeed the user has the following options.

A user can write a news feed item

A username and the feed content should be given as an input for creating a feed item.

A user can reply on a post or comment

The user can reply to a post or a comment after reading their news feed. The unique identifier of the comment/news feed item and the content of the reply should be taken as an input

A news feed item can be upvoted or downvoted

The user can upvote, downvote a comment/news feed item. The unique identifier of the comment/news feed item should be taken as an input

A user can have the newsfeed displayed any time

No input is needed for this. The newsfeed as it is at the moment should be displayed according to the aforementioned specifications

A user can follow other users

The username of the user to be added as a friend should be taken as an input.
Input and output
The input should be taken in the form of statements. The statements should consist of commands and arguments. Commands can be words like 'signup, 'newsfeed', 'upvote etc. Arguments can be separated from commands by special characters something like '=. As a result a statement to reply to comment 105 can look something like

```
reply-105-this is the reply text
```

You may change the input output format without changing the functionality to suit your needs.

Sample
Input is in **bold**, output is not in bold

signup-lucious
signup-albus
signup-tom
login-tom
post-I am going to be the darkest dark wizard of all time post-I am
lord Voldemort bow 3:)
login-lucious

```
id: 002
tom (0 upvotes, 0 downvotes)
I am lord Voldemort btw 3:)
1994-04-19 10:11 PM
```

id: 001
tom (0 upvotes, 0 downvotes)
I am going to be the darkest dark wizard of all time
1994-04-19 10:10 PM

upvote-001
follow-tom
reply-001-I am h you dark lord!
login-albus

id: 002
tom (0 upvotes, 0 downvotes)
I am lord Voldemort btw 3:)
1994-04-19 10:11 PM
id: 001
tom (1 upvote, 0 downvotes)
I am going to be the darkest dark wizard of all time
1994-04-19 10:10 PM
     id: 003
     lucius (0 upvotes, 0 downvotes)
     I am with you dark lord!
     1994-04-19 10:15 PM
post-Happiness can be found, even in the darkest of times, if one only
remembers to turn on the light
downvote-001
downvote-002
reply-003-LOL!
shownewsfeed

id: 002
tom (0 upvotes, 1 downvotes) I am lord Voldemort btw 3:I
1994-04-19 10:11 PM

id: 001
tom (1 upvote, 1 downvotes)
I am going to be the darkest dark wizard of all time
1994-04-19 10,10 PM
     id: 003
     lucius (0 upvotes, 0 downvotes)
     I am with you dark lord᾽
     1994-04-19 10,15 PM
          id: 005
          albus (0 upvotes, 0 downvotes)
          LOL᾽
          1994-04-19 10,30 PM
id, 004
tom (0 upvotes, 1 downvotes)
Happiness can be found, even in the darkest of times, if one only remembers
to turn on the light
1994-04-19 10:28 PM