**Console-based Social Network Application**

**Important Instructions:**

Submit only one cpp file.

Do not take any input from user. Hardcode the sample run’s commands.

***We are not adding Comments in this phase.***

**Project Description**

We need to develop a console based social network application.

Each **User** in the application has a unique ID and name. He may have other users in his friend list, having 10 friends at max. He has a list of pages which he has liked (10 likedpages at max).

Each **Page** has a unique ID, title, list of posts it has shared (page’s timeline).

Each **Post** has a unique ID, description/text, no of likes, list of people who have liked it and shared date. A post can have 10 comments at max.

A **comment** is posted by a specific user or page.

**Required Functionality:**

1. **Set Current User**
   1. Ask user about his ID and set him as current user of application. Now everything that we see in the system will be view of this user.
2. **Like a post**
   1. Ask user about ID of post and like it. A post can be liked by 10 users/pages at max.
3. **View the list of People who liked a post**
   1. Take Post ID from user and display list of people who have liked it
4. **View a Post**
   1. Take post ID and Display the post
5. **View User’s Timeline**
   1. Display User Name
   2. Display user’s posts in his timeline
6. **View Friend List**
   1. Take ID of a user and display his friends list
7. **View Page**
   1. Take Page ID and display all its posts

**Important Instructions**

* You are not allowed to use global variables and functions
* Use best practices studied so far
* Memory deallocation carries significant weightage
* All the arrays should be dynamically allocated.
* Wherever you need an array of objects, keep it as double pointer. If a page has no posts or if a user has no friends and no liked pages then these double pointers should be null.

**Sample Run:** You are required to bring following output (on your console window) at time of your evaluation. DO NOT ASK USER TO ENTER ANYTHING AT RUNTIME. (Make a function Controller::Run() and hardcode function calls to run following sample).

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| Command: Set current System Date 17 4 2024  System Date: 17/4/202024  Command: Set current user “u7”  Abdullah Nadeem successfully set as Current User  Command: View Friend List  -------------------------------------------------------------------------------------------------------------  Abdullah Nadeem – Friend List  u3 - Waheed Khan  u11 – Ahsan Ali  u12 – Ali Ahmed  ---------------------------------------------------------------------------------------------------------------  Comand: View Liked Pages  ---------------------------------------------------------------------------------------------------------------  Abdullah Nadeem – Liked Pages  P1 – Food Fusion  P2 – Al Jazeera English  P5 – Rumi Quotes  P9 – BBC News  ---------------------------------------------------------------------------------------------------------------  ---------------------------------------------------------------------------------------------------------------  Command: View TimeLine  ---------------------------------------------------------------------------------------------------------------  Abdullah Nadeem –Time Line  --- Abdullah Nadeem (1h):  “Happy Birthday to my dear Mom”  Waheed Khan: “Happy Birthday Aunty”  --- Abdullah Nadeem (17/10/2023):  “Happy Birthday to my dear Father”  Ahsan Ali: “Happy Birthday Uncle”  --- Abdullah Nadeem (17/4/2020):  “Got D in toughest subject… Thanks God I am Pass finally…”  Ahsan Ali: “Celebrations???”  ---------------------------------------------------------------------------------------------------------------  Command: ViewLikedList(post5)  Post Liked By:  U2 – Amna Akram  P1 – Food Fusion  U3 - Waheed Khan  U4 - Burhan Tahir  ---------------------------------------------------------------------------------------------------------------  Command: LikePost(post5)  Command: ViewLikedList(post5)  Post Liked By:  U2 – Amna Akram  P1 – Food Fusion  U3 - Waheed Khan  U4 - Burhan Tahir  u7 – Abdullah Nadeem  ---------------------------------------------------------------------------------------------------------------  Command: ViewPage(p1)  Food Fusion  --- Food Fusion (3d):  “Try this at home...”  Food Fusion: “Followrs please try this recipe and give your feedback”  Amna Akram: “Yummy”  Ahsan Ali: “One pink tea for me”  --- Food Fusion (17/3/2024):  “Sunday Special Breakfast for our followers...”  ---------------------------------------------------------------------------------------------------------------  Command: Set current user “u11”  Ahsan Ali successfully set as Current User  Command: ViewTimeline  //Try different commands, everything should run properly.  //Set Different Current Date, everything should run properly. |