**Console-based Social Network Application**

**Important Instructions:**

Submit only one cpp file.

Do not take any input from user. Hardcode the sample run in main function.

**You can attempt this project in a group of maximum three members**

**Phase I – Project Design + Partial implementation**

You need to submit

1. Class Diagram, showing all the classes, their attributes and functions and their relationship with other classes. Design is to be submitted on paper

Submission: In Class

1. Partial Implementation

**Phase II – Development**

**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) and total number of people who have liked it.

Each **Post** has a unique ID, description/text, no of likes, list of people who have liked it and shared date for example; a post is shared at 25th October 2017. A post can have 10 comments at max.

**Activity** may be a part of the Post, having a type and a value against this type. See table below for details:

|  |  |  |
| --- | --- | --- |
| Type |  | Value |
| 1 | feeling | Happy/sad/excited etc. |
| 2 | thinking about | life/future/meaning of life etc. |
| 3 | Making | Money/art/memories etc. |
| 4 | celebrating | A birthday/Halloween/success etc. |

Our application doesn’t support types Eating, Travelling, Drinking, and Watching etc. at the moment.

A **Memory** is a Post having pointer to original post.

A **comment** is posted by a specific user or page. All the Users, Pages and Posts in the application are **Objects** having IDs.

**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. **View Home of Current User**
   1. Display posts of all friends shared in last 24 hours.
   2. Display posts of all his liked pages shared in last 24 hours.
3. **Like a post**
   1. Ask user about ID of post and like it. A post can be liked by 10 users at max.
4. **View the list of People who liked a post**
   1. Take Post ID from user and display list of people who have liked it
5. **Comment on a Post**
   1. Take post ID and comment from the user and add this comment in the post
6. **View a Post**
   1. Take post ID and Display the post with its Comments
7. **Share a Memory**
   1. Take post ID, text from user and share it
8. **View User’s Timeline**
   1. Display User Name
   2. Display user’s posts in his timeline
9. **View Friend List**
   1. Take ID of a user and display his friends list
10. **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 SocialNetworkApp::Run() and hardcode function calls to run following sample).

**Phase I includes output highlighted in Blue.** U7 is just a sample, your program should properly run on any user.

|  |
| --- |
| Command: Set current System Date 15 11 2017  System Date: 15/11/2017  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 Home  ---------------------------------------------------------------------------------------------------------------  Abdullah Nadeem – Home Page  //This is displaying posts of 15th and 14th November (15th Nov is currentDate)  --- Waheed Khan is feeling excited  “OOP Project Started Yayy...”  Amna Akram wrote: “Best of Luck”  Abdullah Nadeem wrote: “Interesting”  --- Ahsan Ali shared “Waiting for Weekend”  Saad Ali wrote: “Any plans for Get Together?”  Abdullah Nadeem wrote: “Yes BBQ”  Nimra Batool wrote: “Lunch Buffet please”  --- Ali Ahmed shared “Waiting for Result”  --- Food Fusion is making Kashmiri Chai (Pink Tea).  “Try this at home...”  Food Fusion wrote: “Followers please try this recipe and give your feedback”  Amna Akram wrote: “Yummy”  Ahsan Ali wrote: “One pink tea for me”  --- Al Jazeera English shared “Oil drilling in Alaska's indigenous communities is on the table again.”  --- Rumi Quotes shared “Be free of possessing things - Rumi”  Ali Ahmed wrote: “Rumi is great”  //Notice the format of printing Activity and Simple Posts  ---------------------------------------------------------------------------------------------------------------  Command: View TimeLine  ---------------------------------------------------------------------------------------------------------------  Abdullah Nadeem –Time Line  --- Abdullah Nadeem is Celebrating a birthday  “Happy Birthday to my dear Mom” … (14/11/2017)  Waheed Khan wrote: “Happy Birthday Aunty”  --- Abdullah Nadeem is Celebrating a birthday  “Happy Birthday to my dear Father” … (14/10/2017)  Ahsan Ali wrote: “Happy Birthday Uncle”  --- Abdullah Nadeem is Celebrating Success  “Got D in toughest subject… Thanks God I am Pass finally…” … (15/11/2015)  Ahsan Ali wrote: “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: PostComment(post4, Good Luck for your Result)  Command: ViewPost(post4)  --- Ali Ahmed shared “Waiting for Result”  Abdullah Nadeem wrote: “Good Luck for your Result”  ---------------------------------------------------------------------------------------------------------------  Command: PostComment(post8, Thanks for the wishes)  Command: ViewPost(post8)  --- Abdullah Nadeem is Celebrating a birthday  “Happy Birthday to my dear Mom” … (14/11/2017)  Waheed Khan wrote: “Happy Birthday Aunty”  Abdullah Nadeem wrote: “Thanks for the wishes”  ---------------------------------------------------------------------------------------------------------------  Command: SeeYourMemories() //Imp: Sharing a memory multiple times??  *We hope you enjoy looking back and sharing your memories on Facebook, from the most recent to those long ago.*  On this Day  2 Years Ago  --- Abdullah Nadeem is Celebrating Success  “Got D in toughest subject… Thanks God I am Pass finally…” … (15/11/2015)  Ahsan Ali wrote: “Celebrations???”  ---------------------------------------------------------------------------------------------------------------  Command: ShareMemory(post10, “Never thought I will be specialist in this field…”)  Command: View TimeLine  Abdullah Nadeem –Time Line  ~~~ Abdullah Nadeem shared a memory ~~~ …(15/11/2017)  “Never thought I will be specialist in this field…”  (2 Years Ago)  --- Abdullah Nadeem is Celebrating Success  “Got D in toughest subject… Thanks God I am Pass finally…” … (15/11/2015)  --- Abdullah Nadeem is Celebrating a birthday  “Happy Birthday to my dear Mom” … (14/11/2017)  Waheed Khan wrote: “Happy Birthday Aunty”  --- Abdullah Nadeem is Celebrating a birthday  “Happy Birthday to my dear Father” … (14/10/2017)  Ahsan Ali wrote: “Happy Birthday Uncle”  --- Abdullah Nadeem is Celebrating Success  “Got D in toughest subject… Thanks God I am Pass finally…” … (15/11/2015)  Ahsan Ali wrote: “Celebrations???”  ---------------------------------------------------------------------------------------------------------------  Command: ViewPage(p1)  Food Fusion  --- Food Fusion is making Kashmiri Chai (Pink Tea). … (14/11/2017)  “Try this at home...”  Food Fusion wrote: “Followrs please try this recipe and give your feedback”  Amna Akram wrote: “Yummy”  Ahsan Ali wrote: “One pink tea for me”  --- Food Fusion is making Halwa Puri. … (10/11/2017)  “Sunday Special Breakfast for our followers...”  Command: Set current user “u11”  Ahsan Ali successfully set as Current User  Command: ViewHome  Command: ViewTimeline |