**Console-based Social Network Application**

**Submission Details:**

Submit only one cpp file.

**Phase I – Project Design + Partial implementation (Submission: Monday 23rd July in Class)**

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

Submission Folder:

\\sandata\Xeon\Samin Iftikhar\Computer Programming (B)\Project Phase I - Partial Implementation

**Final Evaluation – Monday, 30th July (Tentative)**

Submission Folder: To be announced later

**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 pages at max). Each **Page** has a unique ID, title, list of posts it has shared and total number of people who have liked it. Each **Post** has a unique ID, description, no of likes, list of people who have liked it and shared date for example; a post is shared at 25th October 2017. A user or a page can share 10 posts at max. A post can have 10 comments at max. A **comment** is posted by a specific user/page. User can delete a comment on his posts. 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. For example,

|  |
| --- |
| Rabia Adnan shared “<Post ID - Post Description>”   * + - * Ayesha Butt wrote: “Comment 1”       * Ahmed Bilal wrote: “Comment 2” and so on   Asif Mustafa shared “<Post ID - Post Description>”   * + - * Talha Javed wrote: “Comment 1”       * Faisal Zaka wrote: “Comment 2”       * Mannan Ahmed wrote: “Comment 3” and so on |

* 1. Display posts of all his liked pages (or communities) shared in last 24 hours. For example

|  |
| --- |
| FAST-NU shared “<Post ID – Post Description>”   * + - * Ayesha Butt wrote: “Comment 1”       * Ahmed Bilal wrote: “Comment 2” and so on   ICC – International Cricket Council shared “<Post ID – Post Description>”   * + - * Talha Javed wrote: “Comment 1”       * Faisal Zaka wrote: “Comment 2”       * Mannan Ahmed wrote: “Comment 3” and so on |

1. **Like a post**
   1. Ask user about ID of post and like it. A post can be liked by 10 users at max.
2. **View the list of People who liked a post**
   1. Take Post ID from user and display list of people who have liked it
3. **Comment on a Post**
   1. Take post ID and comment from the user and add this comment in the post
4. **View a Post**
   1. Take post ID and Display the post with its Comments
5. **Share a Post**
   1. Take post ID from user and share it
6. **View User’s Timeline**
   1. Display User Name
   2. Display user’s posts in his timeline
7. **View Friend List**
   1. Take ID of a user and display his friends list
8. **View Page**
   1. Take Page ID and display all its posts
9. **Search**
   1. Take a keyword from user and display all the People, Pages and Posts having this keyword in their name, title or description respectively.

**Important Instructions**

* You are not allowed to use global variables and functions
* Use best practices studied so far
* Memory deallocation carrys significant weightage

**Sample Run:** You are required to bring following output (on your console window) at time of your evaluation.

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

|  |
| --- |
| Command: Set current user “u7”  Abdullah Nadeem successfully set as Current User  Command: Set current System Date 15 11 2017  System Date: 15/11/2017  Command: View Friend List  -------------------------------------------------------------------------------------------------------------  Abdullah Nadeem – Friend List  u3 - Waheed Khan  u11 – Ahsan Ali  u12 – Kamal Subhani  ---------------------------------------------------------------------------------------------------------------  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  --- s shared “Waheed Khan is excited about CP Project“  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”  --- Kamal Subhani shared “Waiting for Result”  --- Food Fusion shared “Food Fusion is making Kashmiri Chai (Pink Tea).”  Food Fusion wrote: “Followrs 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”  Kamal Subhani wrote: “Rumi is great”  ---------------------------------------------------------------------------------------------------------------  Command: View TimeLine  ---------------------------------------------------------------------------------------------------------------  Abdullah Nadeem –Time Line  --- “Happy Birthday to my dear Mom” … (14/11/2017)  Waheed Khan wrote: “Happy Birthday Aunty”  --- “Happy Birthday to my dear Father” … (14/10/2017)  Ahsan Ali wrote: “Happy Birthday Uncle”  ---------------------------------------------------------------------------------------------------------------  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)  Kamal Subhani shared “Waiting for Result”  Abdullah Nadeem wrote: “Good Luck for your Result”  ---------------------------------------------------------------------------------------------------------------  Command: PostComment(post8, Thanks for the wishes)  Command: ViewPost(post8)  --- “Happy Birthday to my dear Mom”  Waheed Khan wrote: “Happy Birthday Aunty”  Abdullah Nadeem wrote: “Thanks for the wishes”  ---------------------------------------------------------------------------------------------------------------  Command: SharePost(post5)  Command: View TimeLine  Abdullah Nadeem –Time Line  --- “Happy Birthday to my dear Mom” … (14/11/2017)  Waheed Khan wrote: “Happy Birthday Aunty”  --- “Happy Birthday to my dear Father” … (14/10/2017)  Ahsan Ali wrote: “Happy Birthday Uncle”  --- “Food Fusion is making Kashmiri Chai (Pink Tea).” … (15/11/2017)  ---------------------------------------------------------------------------------------------------------------  Command: ViewPage(p1)  Food Fusion  --- “Food Fusion is making Kashmiri Chai (Pink Tea).” … (14/11/2017)  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)  ---------------------------------------------------------------------------------------------------------------  Command: Search(“Birthday”)  Posts:  --- post8 - Abdullah Nadeem shared “Happy Birthday to my dear Mom”  --- post11 - Haris Muneer shared “Happy Birthday Ali Bhai”  --- p11 - Birthday Cakes  ---------------------------------------------------------------------------------------------------------------  Command: Search(“Ali”)  Users:  --- u2 - Muhammad Ali  --- u6 - Saad Ali  --- u11 - Ahsan Ali  Posts:  --- post11 - Haris Muneer shared “Happy Birthday Ali Bhai”  Pages:  --- p12 - M Ali Jinnah |

**Instructions:**

1. All the arrays should be dynamically allocated.
2. Wherever you need an array of objects, keep it as double pointer. For example if a page has no posts or if a user has no friends and no liked pages then these double pointers should be null.