

## Console-based Social Network Application

### Important Instructions:

Submit only one cpp file.

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

### 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

- 2- Partial Implementation

### Final Evaluation – To be Announced

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 liked pages 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 25<sup>th</sup> 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 a pointer to the original post.

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

## Required Functionality:

- 1- Set Current User**
  - a. Ask the user about his ID and set him as the current user of the application. Now everything that we see in the system will be viewed by this user.
- 2- View Home of Current User**
  - a. Display posts of all friends shared in the last 24 hours.
  - b. Display posts of all his liked pages shared in the last 24 hours.
- 3- Like a post**
  - a. Ask the user about the ID of the post and like it. A post can be liked by 10 users at max.
- 4- View the list of People who liked a post**
  - a. Take Post ID from user and display list of people who have liked it
- 5- Comment on a Post**
  - a. Take post ID and comment from the user and add this comment in the post
- 6- View a Post**
  - a. Take post ID and Display the post with its Comments
- 7- Share a Memory**
  - a. Take post ID, text from user and share it
- 8- View User's Timeline**
  - a. Display User Name
  - b. Display user's posts in his timeline
- 9- View Friend List**
  - a. Take ID of a user and display his friends list
- 10- View Page**
  - a. 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 a 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 the 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

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Abdullah Nadeem – Friend List

u3 - Waheed Khan  
u11 – Ahsan Ali  
u12 – Ali Ahmed

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Command: View Liked Pages

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Abdullah Nadeem – Liked Pages

P1 – Food Fusion  
P2 – Al Jazeera English  
P5 – Rumi Quotes  
P9 – BBC News

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Command: View Home

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Abdullah Nadeem – Home Page

//This is displaying posts of 15<sup>th</sup> and 14<sup>th</sup> November (15<sup>th</sup> 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

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Command: View TimeLine

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Abdullah Nadeem –Timeline

--- 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 the toughest subject... Thank God I passed 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

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Command: LikePost(post5)

Command: ViewLikedList(post5)

Post Liked By:

U2 – Amna Akram

P1 – Food Fusion

U3 - Waheed Khan

U4 - Burhan Tahir

u7 – Abdullah Nadeem

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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”

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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”

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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 the toughest subject... Thank God I passed 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 –Timeline

~~~ Abdullah Nadeem shared a memory ~~~ ... (15/11/2017)

“Never thought I would be a specialist in this field...”

(2 Years Ago)

--- Abdullah Nadeem is Celebrating Success

“Got D in the toughest subject... Thank God I am Passing 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 the toughest subject... Thank God I passed 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: “Followers 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