

	Course Name:	Object Oriented Programming	Course Code:	CS 217
	Program:	CS	Semester:	Spring 2021
	Due Date:	25-06-2021	Total Marks:	100
	Open Date:	06-06-2021	Weight	10%
	Section:	D	Page(s):	6
	Exam Type:	Project	Submission:	On Google Classroom

## Console-based Social Network Application

### Notes:

1. Understanding the question is part of assignment, so do not ask anyone else to understand the problem for yourself and tell you the solution. Do it yourself.
2. **Submit only one cpp file.**
3. **DON'T involve in PLAGIARISM**

### Phase I – Project Design (Submission: **Wed 9<sup>th</sup> June**)

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
- 2- Partial Implementation  
Only classes' prototypes/signatures.

### Submission Details:

Submit only one cpp file.

### Final Evaluation – (Submission: **Friday 25<sup>th</sup> June**)

Submission Folder: On classroom

### 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 25<sup>th</sup> October 2017. A post can have 10 comments at max.

**Activity** is a 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, Watching etc. at the moment.

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

- 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

- Display posts of all friends shared in last 24 hours.
- Display posts of all his liked pages shared in last 24 hours.

##### 3- Like a post

- 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

- Take Post ID from user and display list of people who have liked it

##### 5- Comment on a Post

- Take post ID and comment from the user and add this comment in the post

##### 6- View a Post

- Take post ID and Display the post with its Comments

##### 7- Share a Post (This is NOT INCLUDED in your project)

- Take post ID from user and share it

##### 8- View User's Timeline

- Display User Name
- Display user's posts in his timeline

##### 9- View Friend List

- Take ID of a user and display his friends list

##### 10- View Page

- a. Take Page ID and display all its posts

#### 11- Search

- a. 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 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).

```
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 15<sup>th</sup> and 14<sup>th</sup> November (15<sup>th</sup> Nov is currentDate)

--- Waheed Khan is feeling excited

“CP 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”

--- Kamal Subhani 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”

Kamal Subhani 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”

---

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)

--- 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”

---

//Share Post functionality is not included in your Project

Command: SharePost(post5)  
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”

--- “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)

“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: Search(“Birthday”)

Posts:

--- post8 - Abdullah Nadeem is Celebrating a birthday

“Happy Birthday to my dear Mom” ... (14/11/2017)

--- post11 - Haris Muneer is Celebrating a birthday

“Happy Birthday Ali Bhai” ... (10/10/2017)

--- p11 - Birthday Cakes

---

Command: Search(“Ali”)

Users:

--- u2 - Muhammad Ali

--- u6 - Saad Ali

--- u11 - Ahsan Ali

Posts:

--- post11 - Haris Muneer is Celebrating a birthday

“Happy Birthday Ali Bhai” ... (10/10/2017)

Pages:

--- p12 - M Ali Jinnah