**Console-based Social Network Application**

**Submission Details:**

Submit only one cpp file.

**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.

**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 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.

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| 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 – Kamal Subhani  ---------------------------------------------------------------------------------------------------------------  Comand: View Liked Pages  ---------------------------------------------------------------------------------------------------------------  Abdullah Nadeem – Liked Pages  P1 – Food Fusion  P2 – Al Jazeera English  P5 – Rumi Quotes  P9 – BBC News  --------------------------------------------------------------------------------------------------------------- |

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| --- |
| 20 //Total Users  //Each line below saves one user in following format.  //<User ID> <First Name> <Last Name>  u1 Amna Akram  u2 Muhammad Ali  u3 Waheed Khan  u4 Burhan Tahir  u5 Hassan Sohail  u6 Saad Ali  u7 Abdullah Nadeem  u8 Nimra Batool  u9 Abubakar Javed  u10 Saad Sultan  u11 Ahsan Ali  u12 Ali Ahmed  u13 Saad Ahmed  u14 Usman Usman  u15 Zaid Tariq  u16 Abdullah Siddiqui  u17 Saif ullah  u18 Hashir Baig  u19 Usama Jawad  u20 Haris Muneer |

|  |
| --- |
| 12 //Total Pages  //Each line below save one page record in following format  //<Page ID> <Page Title>  p1 Food Fusion  p2 Al Jazeera English  p3 Allama Iqbal  p4 Scholarships for International Students  p5 Rumi Quotes  p6 Dawn.com  p7 People Of Pakistan  p8 History  p9 BBC News  p10 CNN International  p11 Birthday Cakes  p12 M Ali Jinnah |

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| --- |
| //Each line below saves user's friends and liked pages' IDs in following format. -1 is delimiter  //<User ID> <List of friends IDs seperated by space> <-1> <List of Liked Pages seperated by space> <-1>  u17 u16 -1 p1 -1  u19 u18 -1 p7 -1  u1 u2 u3 u4 -1 p1 p2 -1  u12 u7 u10 -1 p5 -1  u2 u1 u5 u6 -1 p2 p3 -1  u8 u4 u11 -1 -1  u3 u1 u7 -1 -1  u4 u1 u8 u9 u10 -1 p10 -1  u5 u2 -1 p9 p10 -1  u6 u2 u11 -1 p8 -1  u7 u3 u11 u12 -1 p1 p2 p5 p9 -1  u9 u4 -1 p4 -1  u10 u4 u12 -1 p2 -1  u11 u6 u7 u8 -1 p1 -1  u13 u14 u15 -1 p3 -1  u14 u13 u16 -1 p2 -1  u15 u13 u16 -1 p1 -1  u16 u14 u15 u17 -1 p1 -1  u18 u19 -1 -1  -1 |

Help

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| --- |
| Class User  {  Char\* ID;  Char\* Fname;  Char\* Lname;  User\*\* FriendList;//null or 10 pointers max  Page\*\* LikedPages;//null or 10 pointers max  Public:  AddFriend(User\*&)  ReadDataFromFile(fin);  LikePage(Page\*&)  ViewFriendList() //As you displayed students of a society  ViewLikedPages()// iterate through pointers, call list view  }  Class Page  {  Char\* ID;  Char\* Title  Public:  ReadDataFromFile(fin);  }  Class Controller{  User\*\* AllUsers;  Page\*\* AllPages;  Public:  User\* SearchUserByID(ID);  Page\* SearchPageByID(ID);  LoadAllUser(…){  Fin();  AllUsers = new User\*[total];  For(I = 0 to total)  //This is just partial code  AllUsers[i]->ReadDataFromFile(fin);  }  LinkUsersAndPages(){  Fin>>u17  User\* temp = SearchUserByID(“u17”);  While(! -1)  {  Fin>>friendID // “u16”  Temp-> AddFriend( SearchUserByID(“u16”));  }  While(! -1)  {  //Page’s Association same as above.  }      }  LoadData()  {  LoadAllUsers(“Users.txt”); //Keep it easily configurable  LoadAllPages(“…”); //Keep it easily configurable  LinkUsersAndPages();  }  }  Main(){  Controller mainApp;  mainApp.LoadData();  } |