Assignment 4

Due Date: August 12, 10am

Social Media Platform

You have been tasked with developing a social media platform using graphs. Each vertex in the graph represents a user, and each edge represents a connection between two users (i.e., a friend relationship). Your program should provide a user-friendly menu that allows users to perform the following actions:

```
1. Add a user to the platform.
2. Remove a user from the platform.
3. Send a friend request to another user.
4. Remove a friend from your list.
5. View your list of friends.
6. View the list of users on the platform.
7. Exit
- - - - - - - - - - - - - - - - -
Enter a choice:
```

Your program should ensure that each user has a unique identifier (e.g., a username) and that friend requests and removals are properly reflected in the graph. Additionally, your program should implement appropriate error handling for invalid user inputs (e.g., attempting to add a user with a duplicate username). Good luck!

Choice 1: will prompt you to add a new user to your platform if the user already exists (their username is already used by someone) your system should warn you and prompts you to use another username

Choice 2: will prompt you to remove a user from your platform, if the user given does not exist your system should warn you and prompt you to make sure of the username. When the user is removed, all their connections (i.e., edges in the graph) should be removed as well to maintain the integrity of the social network.

Choice 3: will prompt you to add a connection between 2 users (the input should be 2 users), when a request is sent, an edge is added between the two users in the graph, representing their connection.

Choice 4: will prompt you to remove a connection between 2 users (the input should be 2 users), which means that the edge between the two users in the graph is removed. This can be useful when users no longer wish to be connected or when a friendship has ended.

Choice 5: will prompt you to give a user, and returns a list of all the users who are currently friends, this list should be generated based on the edges in the graph that connect the user to their friends.

Choice 6: will print all the users that are registered on your system (prints all usernames), the usernames should be printed based on the vertices in the graph, which represent each user.

Choice 7: Terminates the program.

<u>Note</u>: You can use AM or AL it is up to you, the graph is undirected.

Submission Steps:

1. Name your python file which includes your submission similar to the following assignment_04_Name_LastName

2. Push your file to the remote repository foundation-cs-python on GitHub

3. Finally open the assignment on GitHub and submit the link.

4. If you have any inquiry about the assignment or if there is something not clear about the steps feel free to contact me through slack or by email

Important Reminder:

The assignment should be the GitHub link, no files or replit links will be accepted for the

submission and you will be treated as if you did not do the assignment

You cannot do well on the exams unless you do the assignment

YOURSELF! Do not Google the solution or chatgpt it.

This will not help you! It is your decision in the end, your responsibility.

You are allowed to lookup methods in python that might help you in your solution.