CS1020 Take-home Lab #2
Exercise #2: Simple Social Network
http://www.comp.nus.edu.sg/~cs1020/3_ca/labs.html

Objectives:
1. Designing own class
2. Using **array**

Task statement:

(Note that unless otherwise stated, you may assume that all input data are valid and hence there is no need for you to perform input data validation.)

Your task is to implement a simple mini version of a social network. Two classes are given: **SocialNetwork** and **User**. In **SocialNetwork**, an array of **User** objects is to be used for storing all the users in the social network. You may assume that there are at most 100 users. For each user, he/she keeps a list that stores all the users he/she is following.

The social network supports some operations listed below:

1. Register a user with a given name (assuming that no two same names will be registered).

2. Set user A to follow user B. (note that a user cannot follow himself/herself)

3. Set user A to unfollow user B.

4. Find pairs of mutual followers. A and B are mutual followers if A follows B and B follows A.

You are required to implement all the above operations in the **SocialNetwork** class by calling the appropriate methods in the **User** class.

Input format:

Each line contains an operation, which has one of the following formats:

- R A B: Register users A and B

- F A B: Set user A to follow user B

- U A B: Set user A to unfollow user B

- M: Display the number of pairs of mutual followers

Note that there are no space in a name, and no duplicate names in the input.

Note that one objective of this exercise is to use **array**, so please do NOT use **ArrayList** or other similar classes from the API.

Number of submissions: You are given **15** submissions. Only the final submission will be graded.

Sample run #1:

```
R Lily Henry
F Lily Henry
M
Number of pairs of mutual followers: 0
F Henry Lily
M
Number of pairs of mutual followers: 1
```
 (user pressed ctrl-d here)

Sample run #2:

```
R Lily Henry
F Lily Henry
F Henry Lily
R May
F Henry May
R John
F Lily May
F May Henry
F May Lily
M
Number of pairs of mutual followers: 3
F Henry John
U Henry May
M
Number of pairs of mutual followers: 2
```
(user pressed ctrl-d here)