

CIT 591 Waiver Proficiency Exam

Instructions

There is one programming task, which is explained below. Please make sure to include a class `SocialNetworkRunner` that has a `main()` method and can be used for running your program. You can create as many additional classes/methods as you feel appropriate.

Social Networking

You will implement some of the features found in social networking websites like Instagram and Facebook.

You need to write a program that will read a file having the following format. Each line of the file will start with a person's name, followed by a semicolon, and then a comma-separated list of his/her friends' names, ending with a period, like this:

```
Charlie: Snoopy, Linus, Lucy.
```

A sample file called "friends.txt" is included in GitHub, <https://github.com/KathleenFMalone/Waiver>. Your program can assume that the file is correctly formatted, and that names will not contain spaces. Further, friendships can be "unidirectional" – Charlie can have Linus as one of his friends, but this does not mean that Linus should have Charlie as one of his. You need to implement the following two methods for this program.

- `mostFriends`
This method returns the name of the person who has the most friends.
- `friendsInCommon`
This method takes two `Strings` as parameters (representing the names of two people) and returns an `int` representing how many friends they have in common.

Design

Your program should follow good software design principles. Please explain (in 2-3 sentences) what design decisions you made and why in the README file.

Testing

You needed to perform some unit testing using Junit for your program. Write at least 5 unit tests and include it with your code. Please explain (in 2-3 sentences) why you wrote these specific tests in the README file.

Git and GitHub

You need to use GitHub. Complete the project and submit to the private repository created for you. Your private repository is at address:

https://github.com/cit-upenn/cit-591-fall2018-waiver-YOUR_PENN_KEY

eg. my pennkey is kfmalone so my repository is

<https://github.com/cit-upenn/cit-591-fall2018-waiver-kfmalone>

Please make sure you follow good git practices.

For your submission, please include the following:

1. Java source code – It should be well-commented, use good Java coding practices, and have a good modular design.
2. JUnit Tests.
3. A README file containing details on your design and testing decisions.

(If you don't know how to use git, please email your final solutions to kfmalone@seas.upenn.edu)