Due: June 14, 2019

Assignment-4: A Social-Network Based Recommendation System for last.fm

In this assignment, you are asked to design and implement a social network-based recommender system for last.fm.

You are given the following dataset (Reference: http://www.lastfm.com):

Dataset: data.zip file contains social networking, tagging, and music artist listening information from a set of 2K users from Last.fm online music system. http://www.last.fm

- There are 1892 users and 17632 artists
- There are 12717 user-friend relations
- There are 92834 user-listened artist relations [user, artist, listeningCount]

Files:

- artists.dat: This file contains information about music artists listened and tagged by the users. url and pictureURL will not be used in the assignment.

  File format: `id \t name \t url \t pictureURL`

- user_artists.dat: This file contains the artists listened by each user. It also provides a listening count for each [user, artist] pair.

  File format: `userID \t artistID \t weight`

- user_friends.dat: These files contain the friend relations between users in the database.

  File format: `userID \t friendID`

TODO:

The recommender system will provide the following functionalities:

- `listFriends(int user):` prints the list of friends of the given user
- `commonFriends(int user1, int user2)`: prints the user1's friends in common with user2
- `listArtists(int user1, int user2)`: prints the list of artists listened by both users
- `listTop10():` prints the list of top 10 most popular artists listened by all users
- `recommend10(int user)`: recommends 10 most popular artists listened by the given user and his/her friends.

Submission:

Please submit the following deliverables as a single zip file to CANVAS.

- Source code for Recommender system
- A Class Diagram summarizing your design
- Junit Test cases for testing