

Communities within a Social Network

UCSD Team

Class: NetworkGraph

Purpose and description of class: Represents the network graph. Stores a list of vertices (each of which store their edges). Standard methods exist for building the graph and querying facets of the graph, but also added the method “suggestFriendsOfFriends” for the “easy” part of this assignment

Class: Edge

Purpose and description of class: Represents an edge in a graph. Stores references to each of the vertices the edge connects.

Class: Vertex

Purpose and description of class: Represents a node in a graph. Keeps a list of edges to adjacent nodes in the graph.

Overall Design Justification:

I chose to use a similar design to course 3 by maintaining an adjacency list representation of the graph. NetworkGraph stores all the vertices and each vertex stores its edges. One design decision was tough. The algorithm for my “suggestFriendsOfFriends” method is supposed to return pairs of people to suggest as friends. I considered adding a new class, “FriendPair,” but ended up realizing it stored the same information as an Edge (just two Vertices). As a result, my “suggestFriendsOfFriends” returns a list of potential edges. My reason for this choice was to reuse the work already done to create edges, but I worry this won’t be as readable as an “edge” for a “pair” might be confusing. I tried to justify it well in the comments so someone using my code recognizes why I made this choice.