

Project1

Team Members:

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Degree Distribution:

Note: all answers consider only in-degree.

1. Do the random graphs you tested appear to be scale-free?

Answer: The random graphs doesn't appear to follow power law and hence not scale free.

2. Do the Stanford graphs provided to you appear to be scale-free?

Answer: The Stanford graphs follow power law. Its gamma parameter is within the expected bounds. Hence it is scale free.

Centrality:

1. Rank the nodes from highest to lowest closeness centrality.

Answer: $C = F > D = H > B = E > A = G > I > J$

2. Suppose we had some centralized data that would sit on one machine but would be shared with all computers on the network. Which two machines would be the best candidates to hold this data based on other machines having few hops to access this data?

Machines C and F will be the best candidates to hold the data. This is because they have the highest closeness-measure.

Articulation:

1. In this example, which members should have been targeted to best disrupt communication in the organization?

- Usman Bandukra
- Nawaf Alhazmi
- Mamoun Darkazanli
- Mohamed Atta
- Djamal Beghal
- Raed Hijazi
- Essid Sami Ben Khemais

These people when removed, will increase the number of connected components => removing them will disrupt communication in the organization