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Week Four - Assignment Centrality Measures

Data of Choice: http://networkrepository.com/mammalia-asianelephant.php

Description of Interactions: Indicators of dominance as well as subordination was included. If a series of interactions occurred during a particular event, the winners/losers were determined only on conclusion of the event, when individuals or groups moved apart.

Group degree centrality is the number of non-group nodes that are connected to group members. Group degree centrality can be normalized by dividing the group degree by the number of non-group actors.

Outline:

method 1

1. Load dataset in Gephi.
2. Run the Yufan Algorithm on the dataset. Rule out all the single nodes.
3. On Filter tab, select Topology and then select Degree Range. Press Filter.
4. Then on the Statistics Tab, select Network Diameter and press Run.
5. In Appearance Tab, we can then rank degree centrality based on how dark the color is or how big the nodes are. (We adjust the size and color in the appearance by the ranking, this is based on your choice of preference)
6. The nodes that have the highest degree centrality is usually connected with most of the other nodes, darker in color, and larger in size.

method 2

Degree centrality across categorical groups can be calculated with the Group Centrality function in Networkx. Networkx provides functions that compute betweenness centrality, closeness centrality, degree centrality, in-degree and out-degree centrality for a group of nodes.