Homework/Problem Set 1

Statistical Analysis of Networks (CRJ) 605

The purpose of this assignment is to familiarize yourself with how networks are created and examined in *R*.

For this assignment, you will work with two networks created from the course survey data. The two networks are:

- `talk.course.net` the Talked about the Course network
  (available at: https://www.jacobtnyoung.com/uploads/2/3/4/5/23459640/crj_605_networks_spring_2019_talk_course_w1_adjancency.csv)
- `trust.net` the Trust with Damaging information network
  (available at: https://www.jacobtnyoung.com/uploads/2/3/4/5/23459640/crj_605_networks_spring_2019_trust_w1_adjancency.csv)

For *each* network (i.e. `talk.course.net` and `trust.net`) do the following:

1. Import the network into *R* and create an object of class `network`.

2. Plot the network using the `gplot()` function.

3. Modify the plot using at least three arguments in the `gplot()` function.

4. Calculate the indegree and outdegree for each actor.

5. Calculate the standardized indegree and outdegree for each actor.

6. Calculate the mean indegree and outdegree.

7. Compare the two means.

8. Calcuate the graph centralization for indegree and outdegree.

9. Compare the two graph centralization scores.

Now, compare the networks:

10. How are the indegree and outdegree different for these networks?

11. What do the differences in the graph centralization scores for these networks tell us?

BONUS Questions:

12. For the `trust.net` network, are people who trust others *more* or *less* likely to be trusted?

This assigment is DUE 2/14.