CS 579 HW #3 due 8am Wed 4/24. **No late submissions allowed.**

1. In HW#2 you simulated three different network models (random graph, small world and preferential attachment). Given a real-world social media data set and an assignment to use this dataset to decide where to allocate resources for community building, describe (a) how you would determine which of the above network models to use, and (b) how you might use the models for your assignment.

2. Given the friendship graph from HW#1, find all (a) k-cliques, (b) k-clubs, (c) k-clans, (d) k-plexes. (e) Describe the difference between these communities.

3. Given the friendship graph from HW#1, use the Girvan-Newman Algorithm to determine the hierarchical clustering dendogram based on edge betweenness (see Fig 6.9 for example).

4. Text Ch 6 question 7

5. Text Ch 6 question 9

6. Text Ch 6 question 10

7. Text Ch 6 question 11

8. Text Ch 6 question 12

9. Text Ch 6 question 13