Assignment 1

- 1. Visualize the network of Zachary's karate club. (GML file is available at http://www-personal.umich.edu/~mejn/netdata/)
- 2. Select two central vertices. Why do you think they are central?
- 3. Show the diameter, density, average path length, and clustering coefficient of the (undirected) network.
- 4. Draw a degree distribution (a histogram of the degrees of vertices) of the network.
- 5. Select two vertices whose PageRank values are the highest.
- 6. Divide the network into small groups using igraph or Gephi, and answer its modularity.
- Deadline: Nov. 6, 2013(Wed) 13:20 (Japan Standard Time)

Zachary's karate club

- a social network of friendships between 34 members of a karate club at a US university in the 1970s.
- vertex: member, edge: communication
- During observation, administrator/instructor conflict was developed, and the club broke

into two clubs.



Karate club at Tokyo Tech http://netsu-n.mep.titech.ac.jp/karate/



Instructions for submission

- Submit your assignment to 5-8 report box at the passage on the third floor between A4 si West8E and West8W buildings.
- Use A4 size papers. Write in English.
- Please staple in the upper left corner.
- Write your name and student ID number.
- Electronic submission (sending by email) is not allowed for this time.



Submit to the right box

