

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 and answer its modularity.
- Deadline: Nov. 30, 2015(Wed) 13:20 (Japan Standard Time)

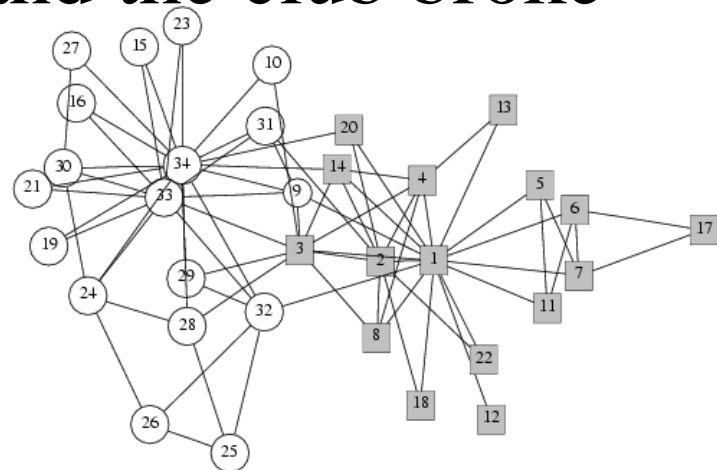
Zachary's karate club

- 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/>



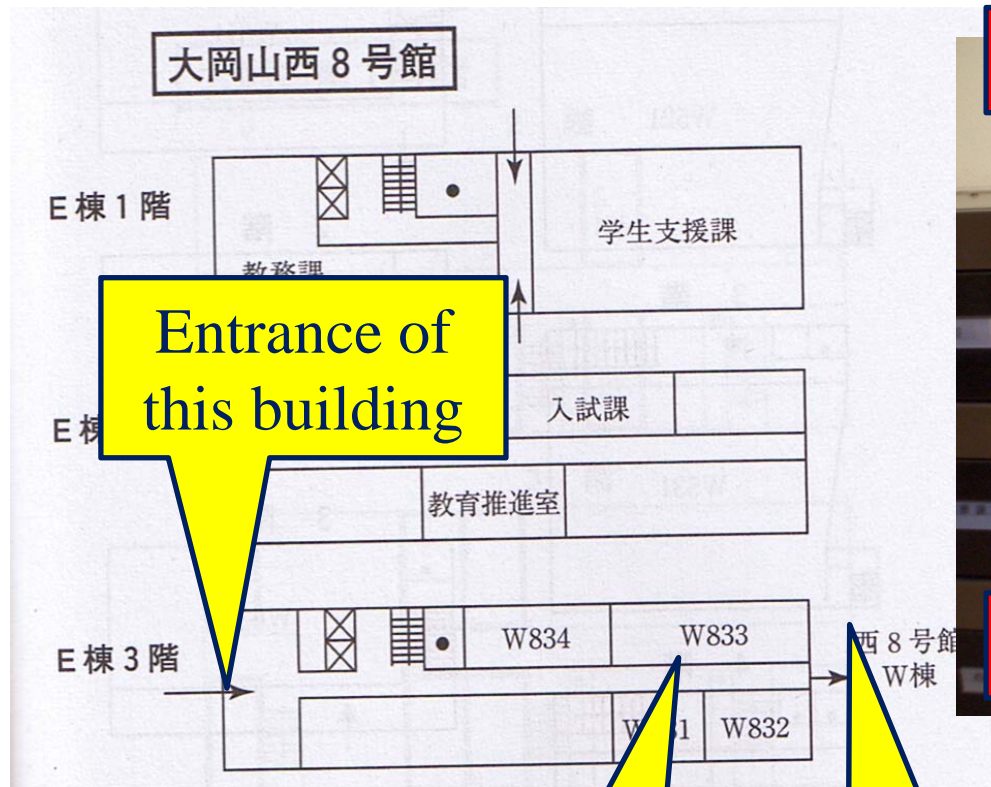
Instructions for submission

- Submit your assignment to 5-8 report box at the passage on the third floor between 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.

A4 size

name
ID
1.
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Submit to the right box



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