

Quiz 7 $Q = \frac{1}{2m} \sum_{ij} (A_{ij} - \frac{k_i k_j}{2m}) \delta(c_i, c_j)$

(1) Make a program of computing degree assortativity of Karate club network.

(2) What are the input(s) and output(s) of modularity? What does the output(s) mean?

(3) Find the value of modularity when all vertices are classified in one group.

(4) Read chapter 5 of “Network, Crowds and Markets”. What does structural balance in international relations (sometimes) cause? Please discuss its reasons with an example of shifting alliances preceding World War I.

<https://www.cs.cornell.edu/home/kleinber/networks-book/networks-book-ch05.pdf>

- Submit from Tokyo Tech OCW-i
- Deadline: ??:??(Japan Standard Time) on Dec. 31(Mon)
- Files should be MS Word, PDF or Zipped Jupyter notebook.