

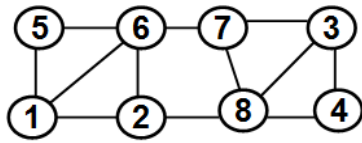
**CSC 641 Network Science**  
**Spring 2017**  
**Instructor: Dr. Natarajan Meghanathan**  
**Quiz 3 (Take Home)**

**Due: April 18, 2017** (4 PM, in class). Submit a printed hardcopy in class (with this quiz sheet as a cover page and your name and J# on the top of the sheet).

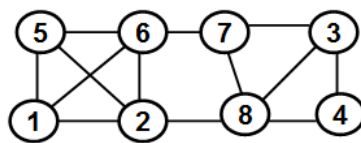
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Given a graph below, run the complete linkage clustering algorithm to determine a modular partitioning of the graph into communities.

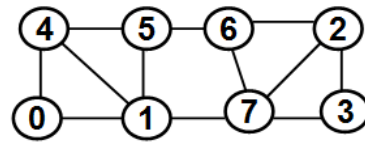
- (a) Show the entire hierarchy
- (b) Run the pairwise modularity program to compute the modularity of each of your clusters and prune the branches of the hierarchy and determine the modularity score of the final partition.
- (c) Determine the internal and external densities of each of the communities of the final partition.



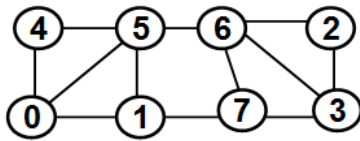
Ashley Abraham



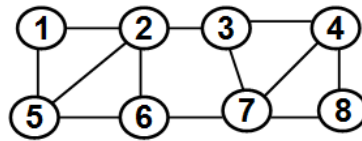
Jonathan Adams



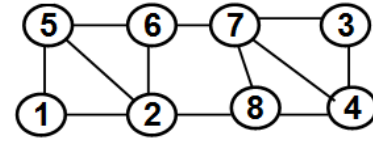
Uzochukwu Akabueze



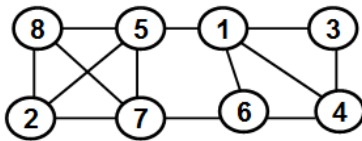
Mahzabin Akhter



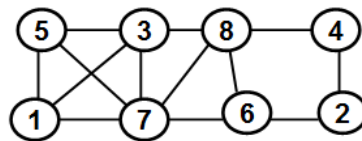
Omar Aljawfi



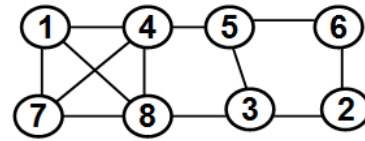
Bejnamin Garlington



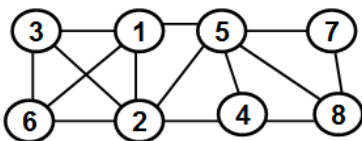
Md Mohiuddin Hasan



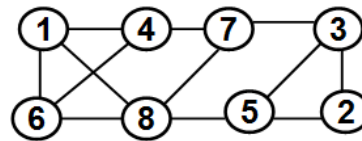
Anthony Lam



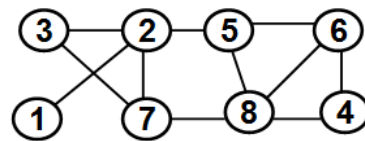
Peter Lowe



Md A. Rahman



Maruful A. Sumon



Ying Zhang