

- Input Format

[N:number of nodes] [M:number of edges]

[T:number of targets] [target_id_1] [target_id_2][target_id_T]

[k: number of edges to be added] [τ :LCC degradation] [ω_b] [ω_c] [ω_d]

[edge_1_v1] [edge_1_v2]

[edge_2_v1] [edge_2_v2]

...

[edge_M_v1] [edge_M_v2]

- Example: For the following figure, input should be

7 10 (7 nodes , 10 edges)

2 2 4 (2 targets node, nodes 2 and 4)

2 0.4 0.001 0.001 0.001 (k , τ , ω_b , ω_c , ω_d)

1 2 (10 lines in the following, each line for an edge, graph is undirected)

1 3

1 6

2 3

2 4

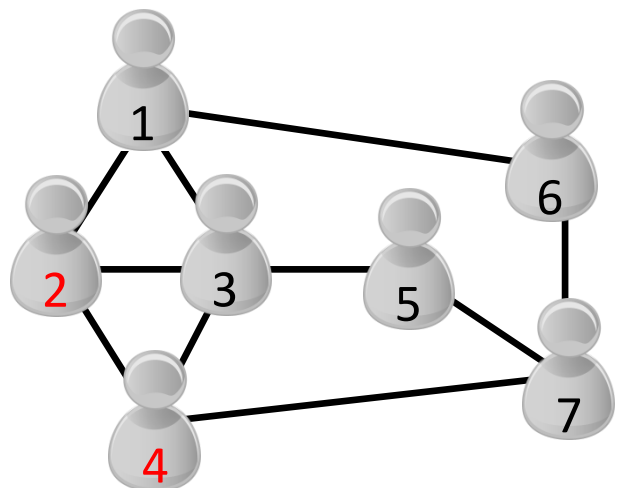
3 4

3 5

4 7

5 7

6 7



- Output Format

[k : number of edges to be added]

[edge_1_v1] [edge_1_v2]

[edge_2_v1] [edge_2_v2]

...

[edge_k_v1] [edge_k_v2]

[obj_value: $\max_{t \in T} LCC(t)$]

- Example

2 (k)

2 7 (2 lines for the following, each for an edge chosen by your algorithm, edges are undirected)

4 6

0.5 (after adding these two edges, LCC of node 2 and 4 both become 0.5. The objective value should be 0.5)

