Assignment on Girvan Newman Algorithm:
CSE 6279

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The Assignment has 3 sequential parts:

Note: You are free to choose programming language or tools to implement it.

Part A: Create the network

Create an undirected graph with at least 20 nodes and 25+ edges. The graph can be created in many ways. Of them you can use one `samplenetwork.txt` file where each node and edge are defined as follows (we assume node name and visible label are identical) location of each node is optional:

5mm

```
% content of samplenetwork.txt
n1 [x1,y1]
n2  [x2,y2]
n3  [x3,y3]

nn   [xn,yn]

edge(n1,n3)
edge(n3,n2)
.
```

Part B: Implement Girvan-Newman Algorithm

1. Write a function to compute edge betweenness centrality.
2. Identify the edge with the highest betweenness and remove it from the original graph to create community.

Part C: Visualization of the result (in contrast)

Visualize:

1. The original graph
2. The graph after community detection (with communities in different colors)

Submission Instruction

All files must be compressed and uploaded as a single zip(or similar) file in the Google Classroom. Code must be supported by extensive comments.

Submission Deadline: 15 days from the date of posting the assignment in Google Classroom.