IT350: Data Analytics
Lab Assignment 4
Girvan Newman Technique

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Code Outputs

python girvanNewman.py

Prints communities of karate club graph(real time supervised social network).

python girvanNewman.py input.txt

Prints betweenness and communities of custom graphs.

The communities plotted are stored in components.jpg file

Screenshots of Output:

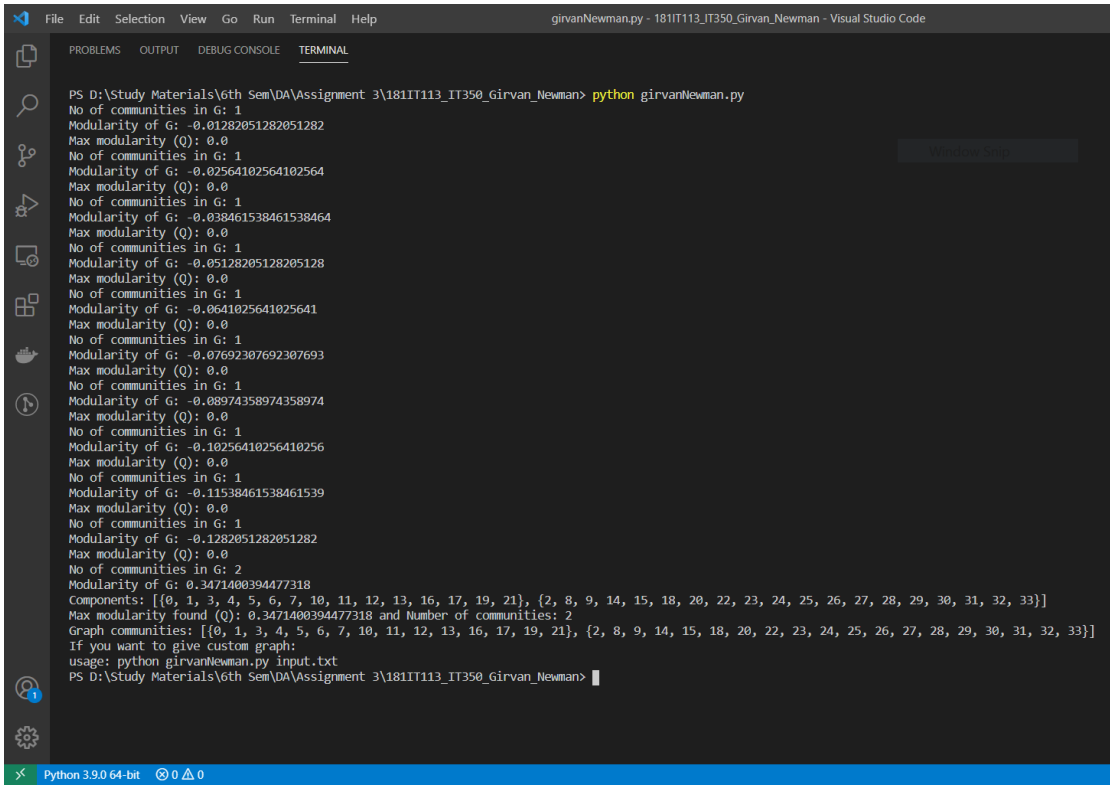

Fig 1. karate_club_graph()

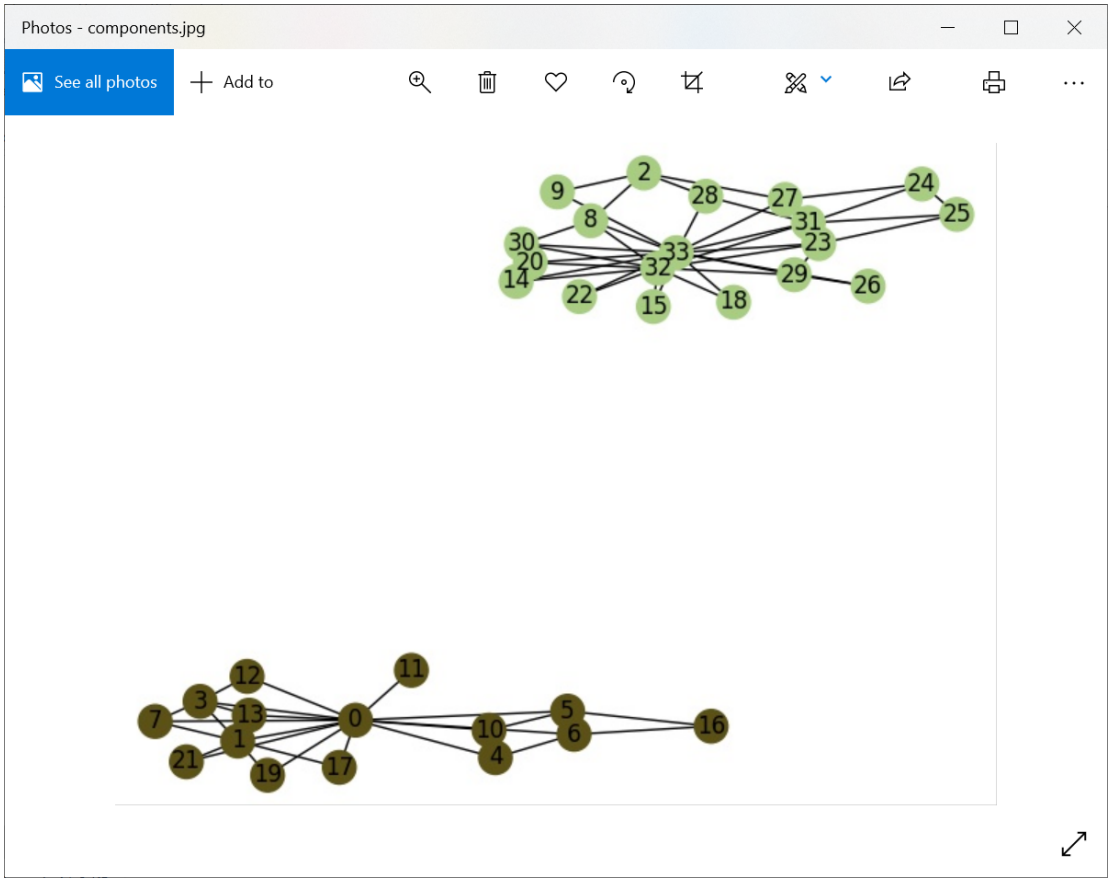

Fig 2. Karate_club_graph plotted

```
PS D:\Study Materials\6th Sem\DA\Assignment 3\181IT113_IT350_Girvan_Newman> python girvanNewman.py input.txt
No of communities in G: 1
Modularity of G: -0.07142857142857142
Max modularity (Q): 0.0
No of communities in G: 1
Modularity of G: -0.14285714285714285
Max modularity (Q): 0.0
No of communities in G: 2
Modularity of G: 0.2831632653061224
Components: [{1, 2, 3, 8, 9}, {4, 5, 6, 7, 10}]
Max modularity found (Q): 0.2831632653061224 and Number of communities: 2
Graph communities: [{1, 2, 3, 8, 9}, {4, 5, 6, 7, 10}]
PS D:\Study Materials\6th Sem\DA\Assignment 3\181IT113_IT350_Girvan_Newman>
```

Fig 3. Custom graph

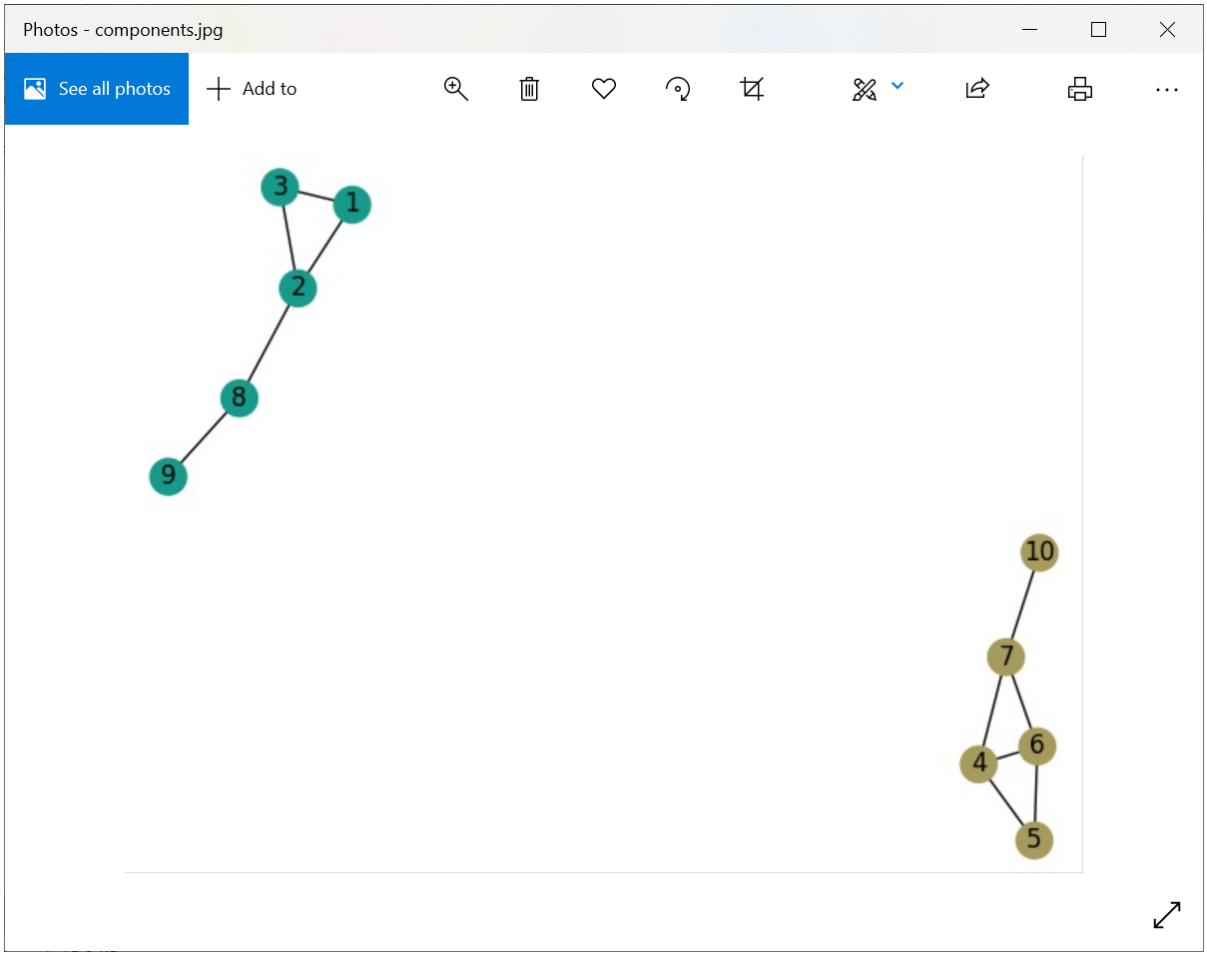

Fig 4. Custom graph plotted