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NETWORK ANALYTICS
BATCH : DSWDMOD 020421

Problem statement

There are three datasets given (Facebook, Instagram, and LinkedIn). Construct and visualize the following networks:

- circular network for Facebook
- star network for Instagram
- star network for LinkedIn

About data:-

We have been given adjacency matrix for facebook ,instagram , and linkedin

Analysis with python: -

1. Facebook : -

#importing require libraries

import pandas as pd

import numpy as np

#for creating network diagram

import networkx as nx

#loading dataet into pandas

facebook=pd.read_csv("D:/DataScience/Class/assignment working/facebook.csv")

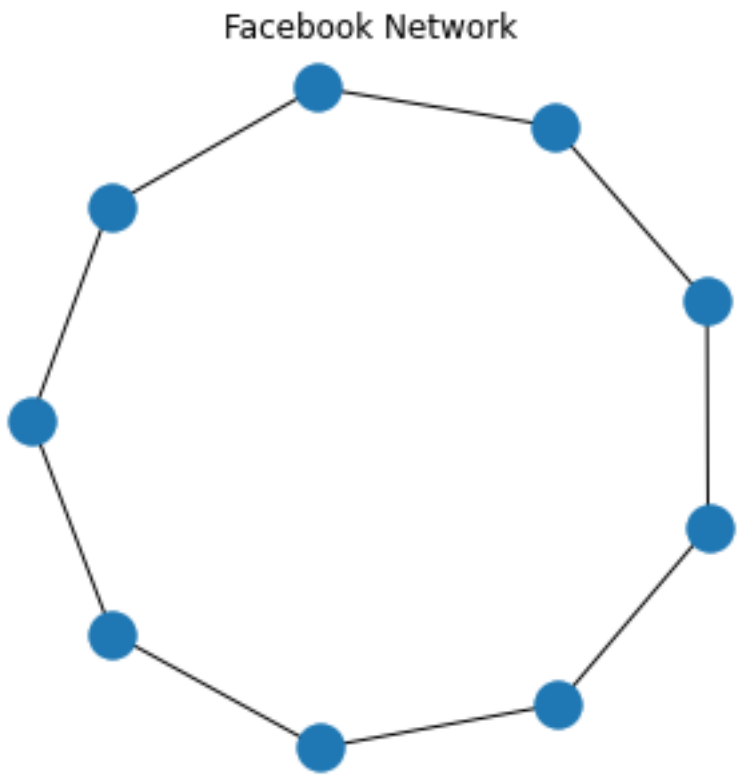
```
In [439]: facebook.head()
Out[439]:
   1  2  3  4  5  6  7  8  9
0  0  1  0  0  0  0  0  0  1
1  1  0  1  0  0  0  0  0  0
2  0  1  0  1  0  0  0  0  0
3  0  0  1  0  1  0  0  0  0
4  0  0  0  1  0  1  0  0  0
```

#converting dataframe into numpy matrix from adjusten matrix

mat=np.matrix(facebook)

```
#creating network with matrix
h=nx.from_numpy_matrix(mat)


#drawing network diagram
nx.draw(h)
```



2. Instagram: -

```
#importing require libraries
import pandas as pd
import numpy as np

#for creating network diagram
import networkx as nx

#loading dataet into pandas
```

instagram=pd.read_csv("D:/DataScience/Class/assignment working/instagram.csv")

```
In [459]: instagram.head()
Out[459]:
   1  2  3  4  5  6  7  8
0  0  1  1  1  1  1  1  1
1  1  0  0  0  0  0  0  0
2  1  0  0  0  0  0  0  0
3  1  0  0  0  0  0  0  0
4  1  0  0  0  0  0  0  0
```

#converting dataframe into numpy matrix from adjusten matrix

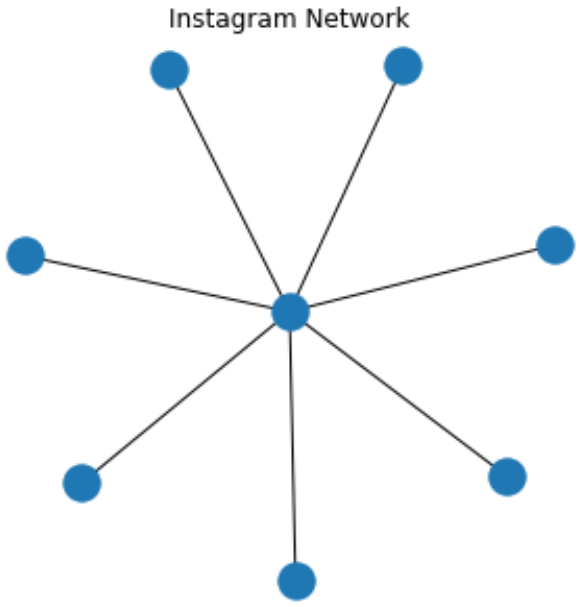
mat=np.matrix(instagram)

#creating network with matrix

h=nx.from_numpy_matrix(mat)

#drawing network diagram

nx.draw(h)



3. Linkedin: -

```
#importing require libraries
import pandas as pd
import numpy as np

#for creating network diagram

import networkx as nx

#loading dataet into pandas
linkedin=pd.read_csv("D:/DataScience/Class/assignment working/Network
Analysis/linkedin.csv")
```

```
In [473]: linkedin.head()
Out[473]:
   1  2  3  4  5  6  7  8  9  10  11  12  13
0  0  1  1  0  0  0  0  0  0   0   0   0   0
1  1  0  1  1  0  0  0  0  0   0   0   0   0
2  1  1  0  1  0  0  0  0  0   0   0   0   0
3  0  1  1  0  0  0  0  0  0   0   0   0   1
4  0  0  0  0  0  1  1  0  0   0   0   0   0
```

```
#converting dataframe into numpy matrix from adjusten matrix
mat=np.matrix(linkedin)

#creating network with matrix
h=nx.from_numpy_matrix(mat)

#drawing network diagram
import matplotlib.pyplot as plt
plt.figure(figsize=(5,5))
plt.title("Linkedin Network")
nx.draw(h)
```