Graph Library Used:

NetworkX

https://networkx.org/

Network Repository Used:

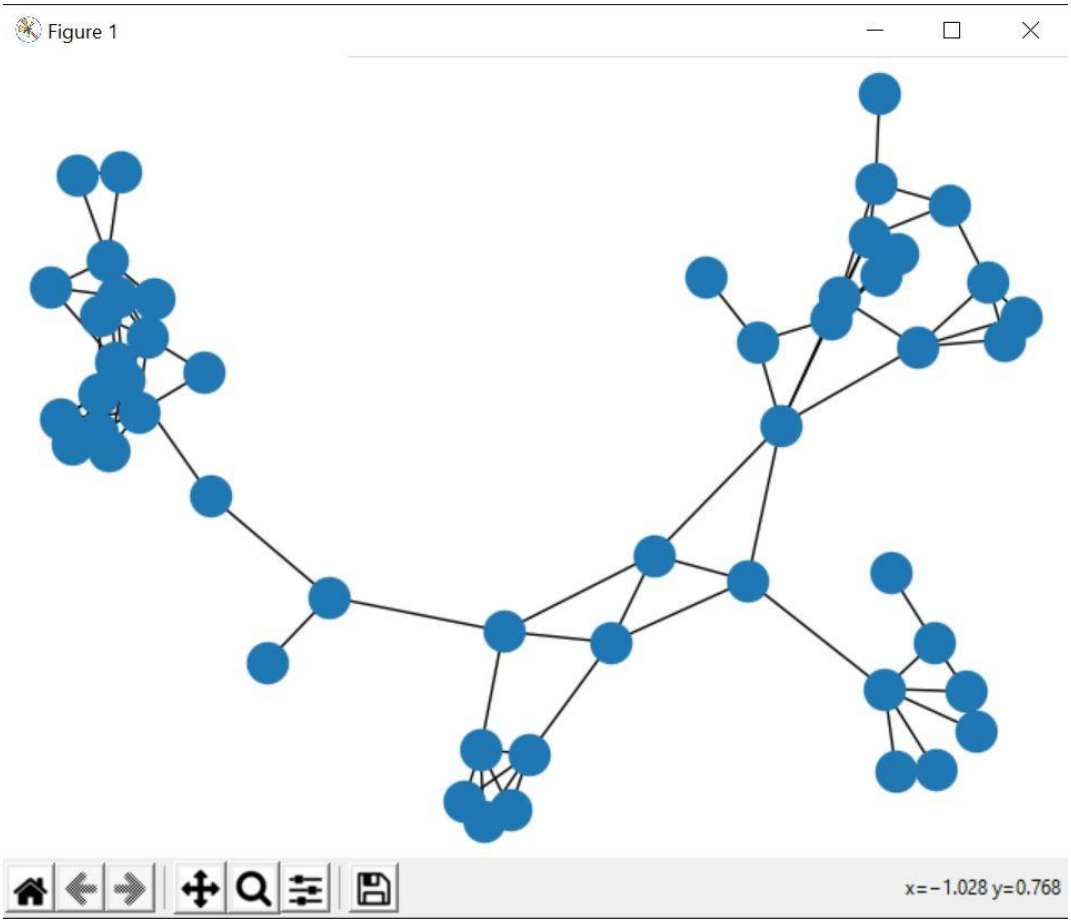
mammalia-voles-bhp-trapping-55

http://networkrepository.com/mammalia-voles-bhp-trapping-55.php

Network Details:

Network Data Statistics	
Nodes	51
Edges	105
Density	0.0823529
Maximum degree	9
Minimum degree	1
Average degree	4
Assortativity	0.355361
Number of triangles	252
Average number of triangles	4
Maximum number of triangles	20
Average clustering coefficient	0.580921
Fraction of closed triangles	0.588785
Maximum k-core	7
Lower bound of Maximum Clique	4

Graph Plot:



Output:

```
15
16      printAll(N, E, avgerageDegree, density, diameter, clusteringCoeff)
17
```

PROBLEMS 12 OUTPUT TERMINAL DEBUG CONSOLE 1: powershell

```
PS C:\A1\X\KU\Algo\lab5> py .\main.py
Number of Nodes:  51
Number of Edges:  105
Average Degree:  4
Denity:  0.08235294117647059
Diameter:  12
Clustering Coefficient:  0.5809212573918456
PS C:\A1\X\KU\Algo\lab5>
```

Network 1

Network Repository Used:

DD21

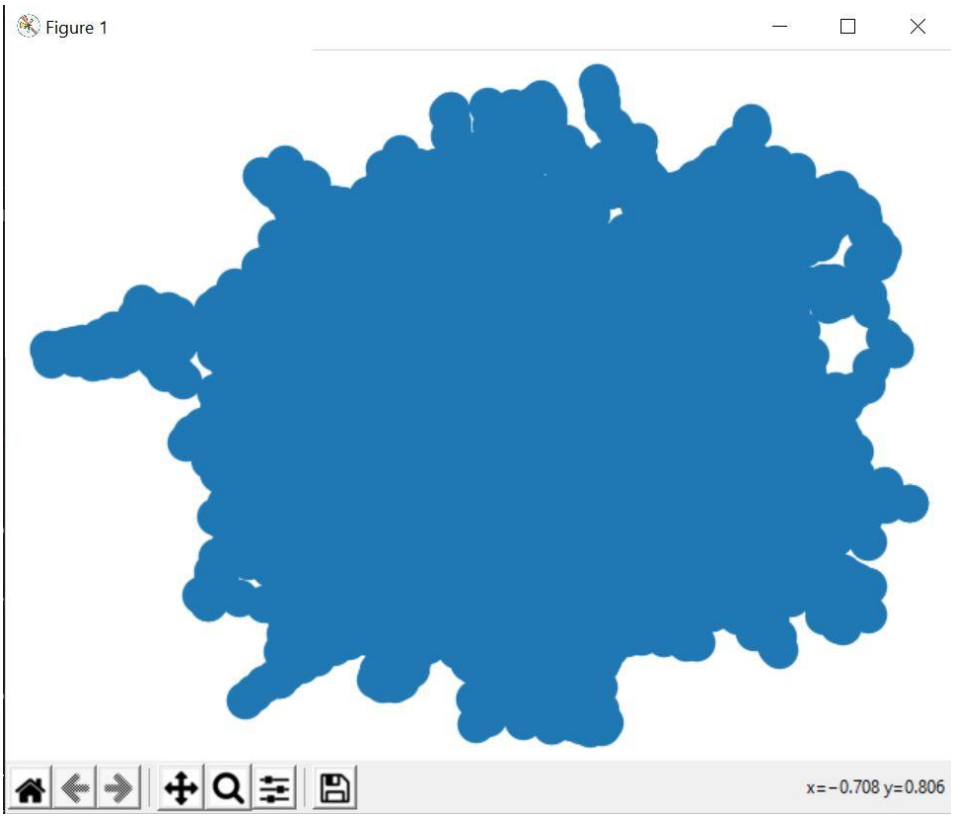
http://networkrepository.com/DD21.php

Network Properties Output:

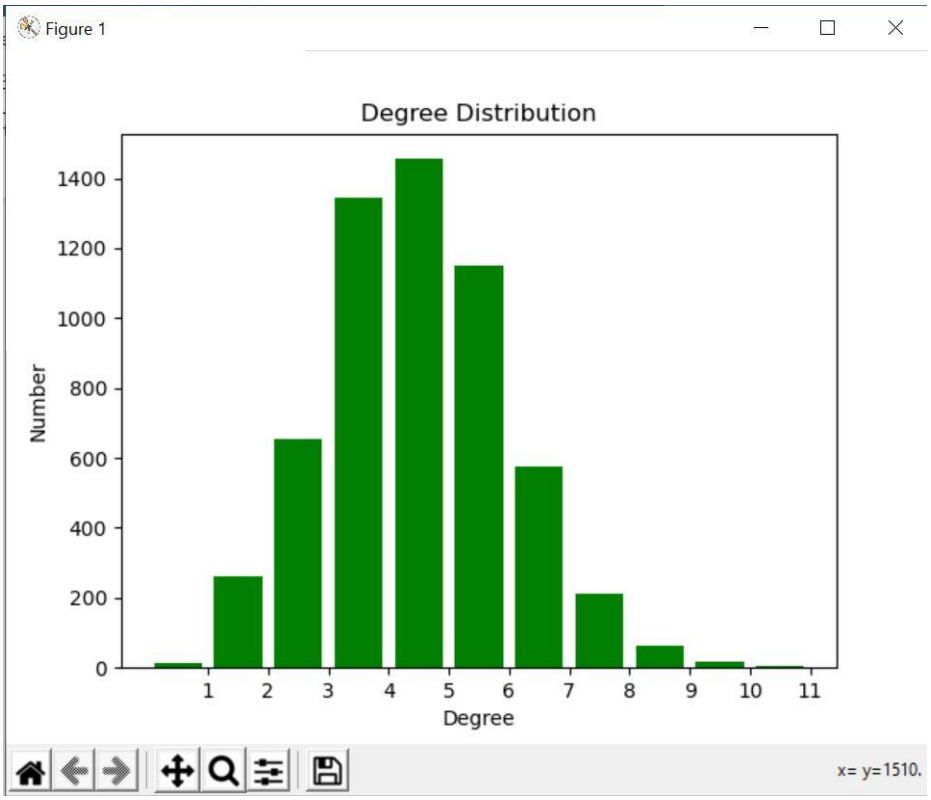
```
PROBLEMS 5  OUTPUT  TERMINAL  DEBUG CONSOLE                    1: powershell

PS C:\A1\X\KU\Algo\lab5> py .\main.py
Number of Nodes:  5748
Number of Edges:  14267
Average Degree:  4
Denity:  0.0008637830950861294
Diameter:  Graph is not connected.
Clustering Coefficient:  0.45842389748965756
PS C:\A1\X\KU\Algo\lab5>
```

Network Plot:



Degree Distribution Plot:



Network 2

Network Repository Used:

Erdos02

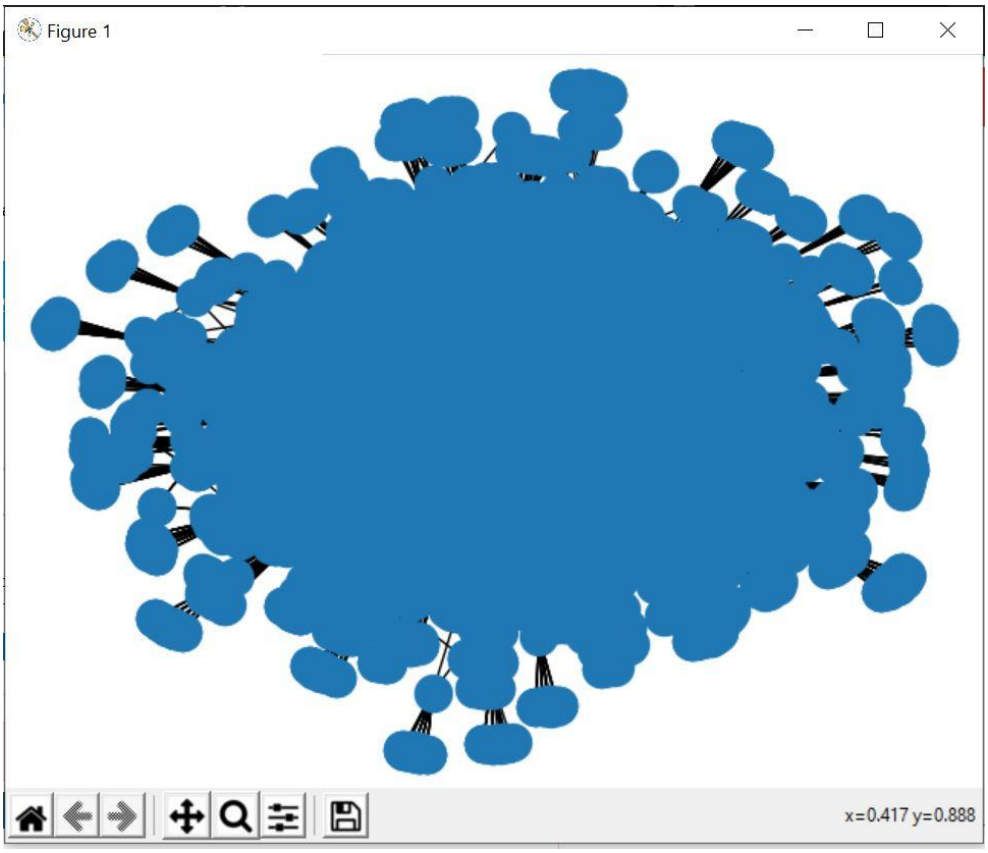
http://networkrepository.com/Erdos02.php

Network Properties Output:

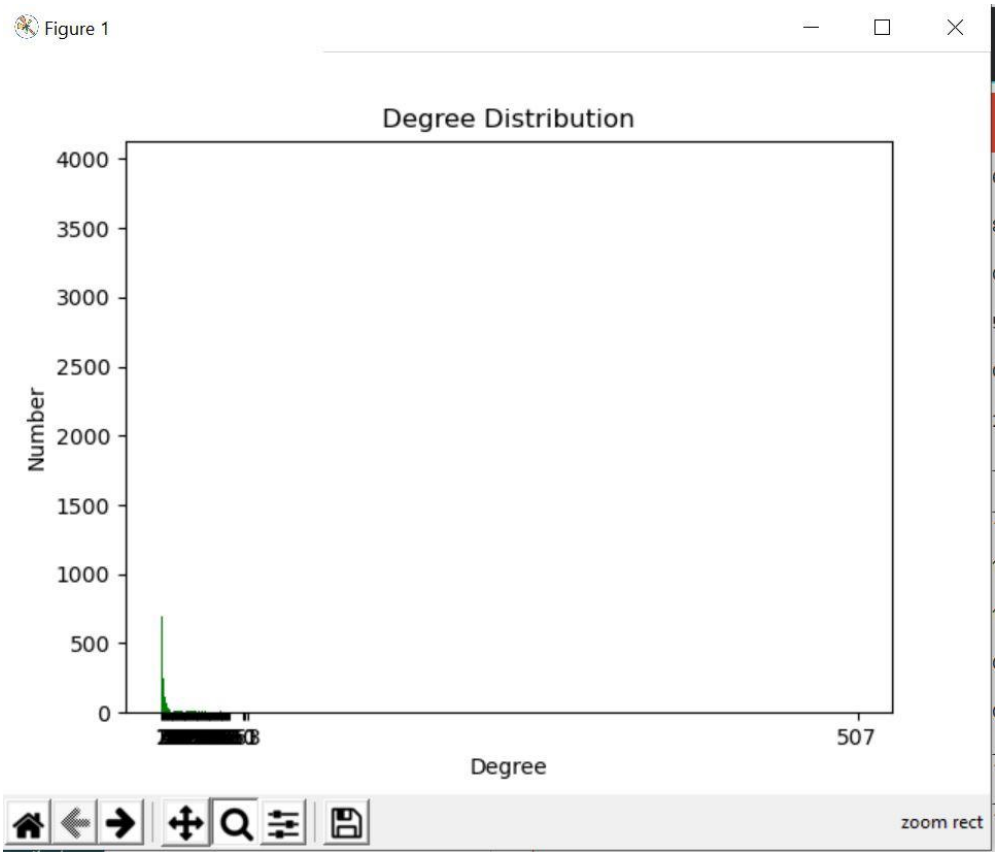
```
PROBLEMS 7  OUTPUT  TERMINAL  DEBUG CONSOLE                    1: powershell

PS C:\A1\X\KU\Algo\lab5> py .\main.py
Number of Nodes:  5534
Number of Edges:  8472
Average Degree:  3
Denity:  0.0005533706457904673
Diameter:  4
Clustering Coefficient:  0.07934005936906241
PS C:\A1\X\KU\Algo\lab5>
```

Network Plot:



Degree Distribution Plot:



Network 3

Network Repository Used:

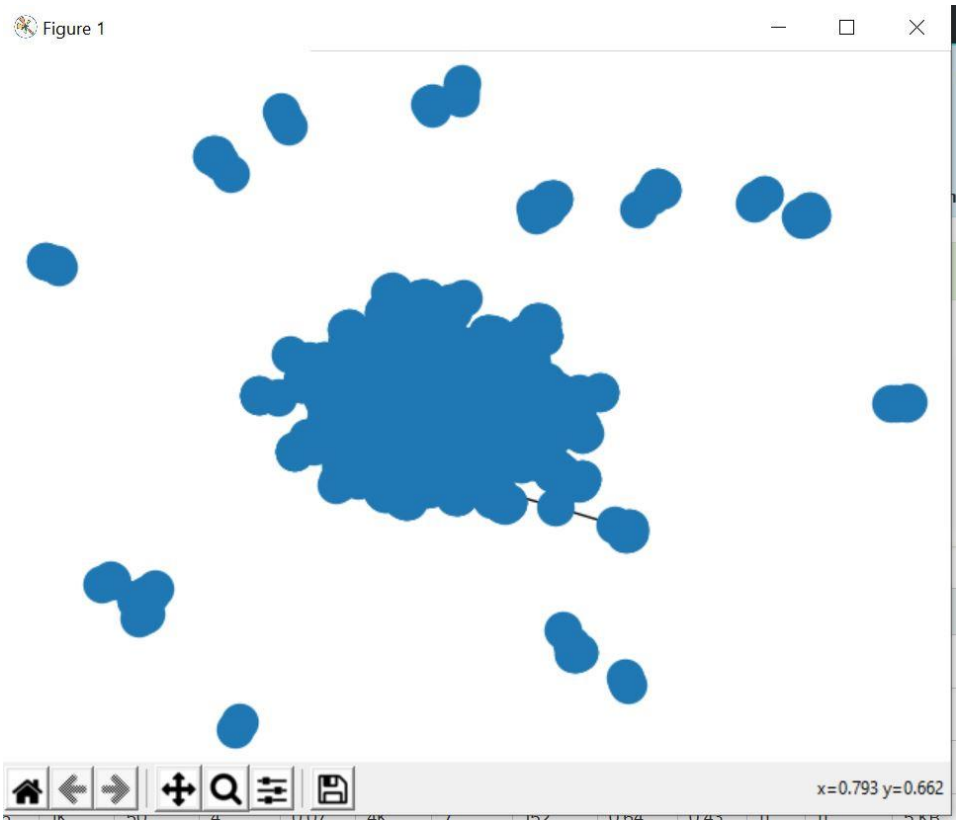
ca-Erdos992

http://networkrepository.com/ca-Erdos992.php

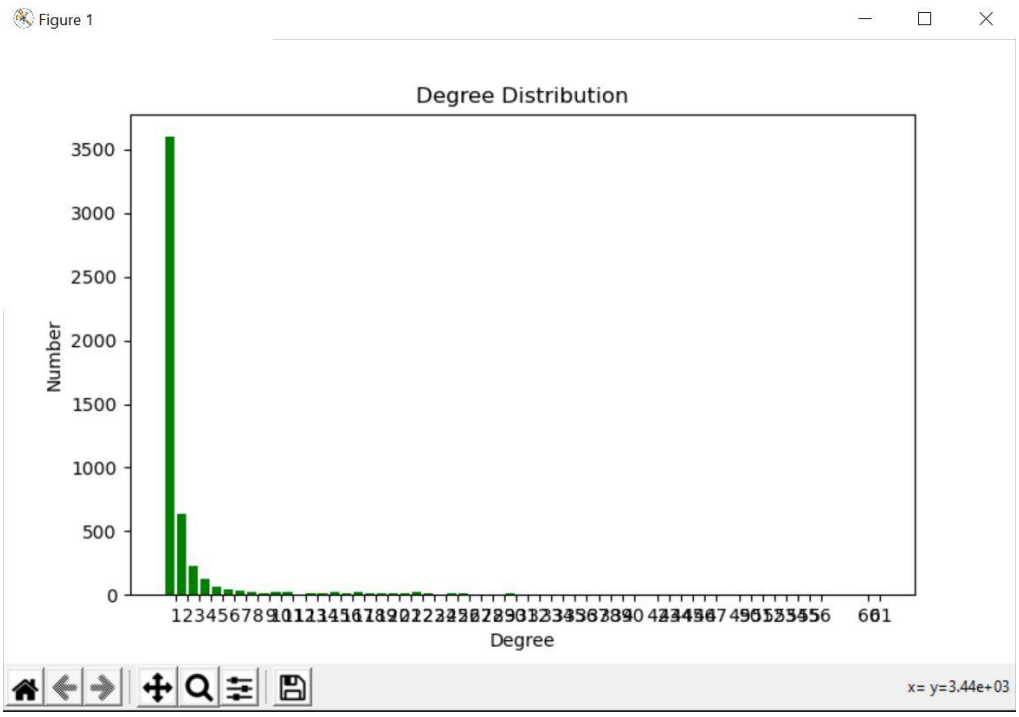
Network Properties Output:

```
PROBLEMS 7  OUTPUT  TERMINAL  DEBUG CONSOLE                    1: powershell
PS C:\A1\X\KU\Algo\lab5> py .\main.py
Number of Nodes:  5094
Number of Edges:  7515
Average Degree:  2
Denity:  0.0005793304605018043
Diameter:  Graph is not connected.
Clustering Coefficient:  0.08183579121192532
PS C:\A1\X\KU\Algo\lab5>
```

Network Plot:



Degree Distribution Plot:



Network 4

Network Repository Used:

Bio-dmela

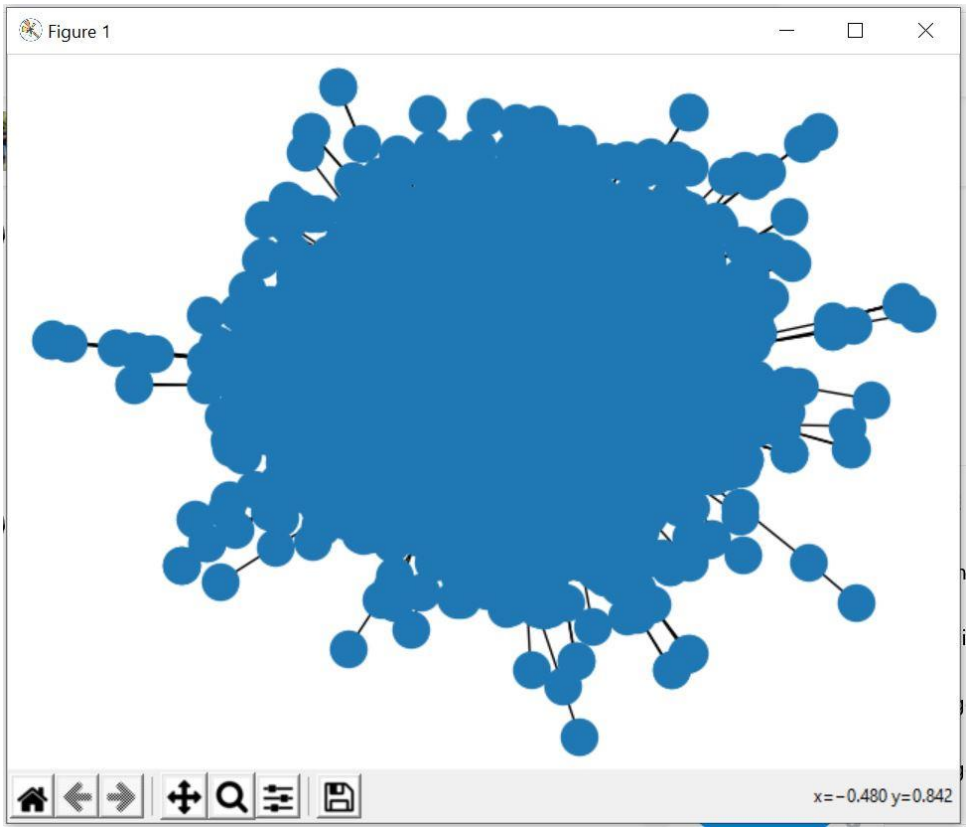
http://networkrepository.com/bio-dmela.php

Network Properties Output:

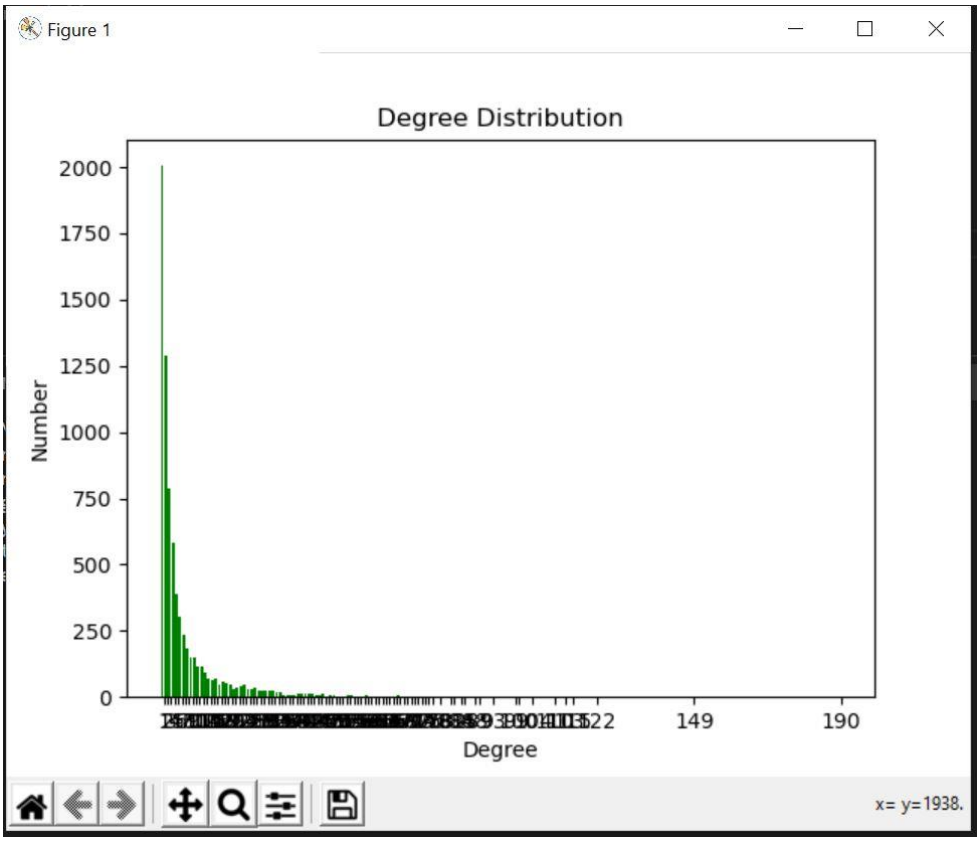
```
PROBLEMS 5  OUTPUT  TERMINAL  DEBUG CONSOLE                    1: powershell

PS C:\A1\X\KU\Algo\lab5> py .\main.py
Number of Nodes:  7393
Number of Edges:  25569
Average Degree:  6
Denity:  0.0009357526688109672
Diameter:  11
Clustering Coefficient:  0.0118501752419374 9
PS C:\A1\X\KU\Algo\lab5>
```

Network Plot:



Degree Distribution Plot:



Network 5

Network Repository Used:

as-735

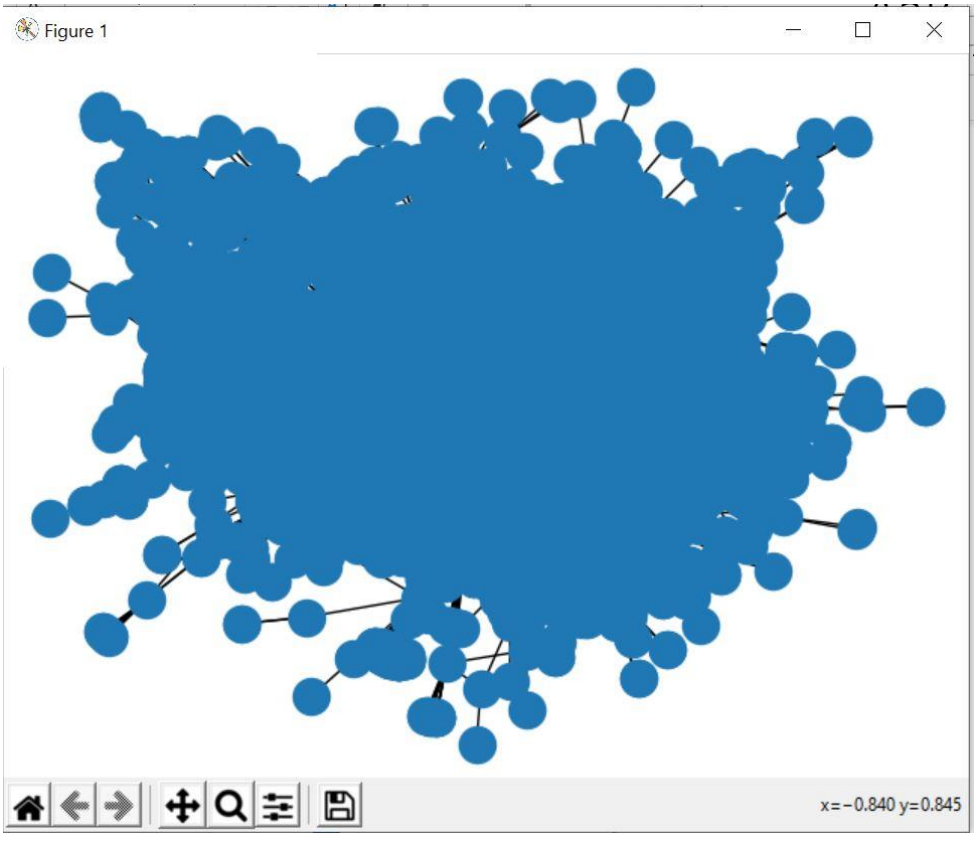
http://networkrepository.com/as-735.php

Network Properties Output:

```
PROBLEMS 5  OUTPUT  TERMINAL  DEBUG CONSOLE                    1: powershell

PS C:\A1\X\KU\Algo\lab5> py .\main.py
Number of Nodes:  6474
Number of Edges:  13895
Average Degree:  4
Denity:  0.0006631476648730896
Diameter:  9
Clustering Coefficient:  0.7992681162154995
PS C:\A1\X\KU\Algo\lab5>
```

Network Plot:



Degree Distribution Plot: