

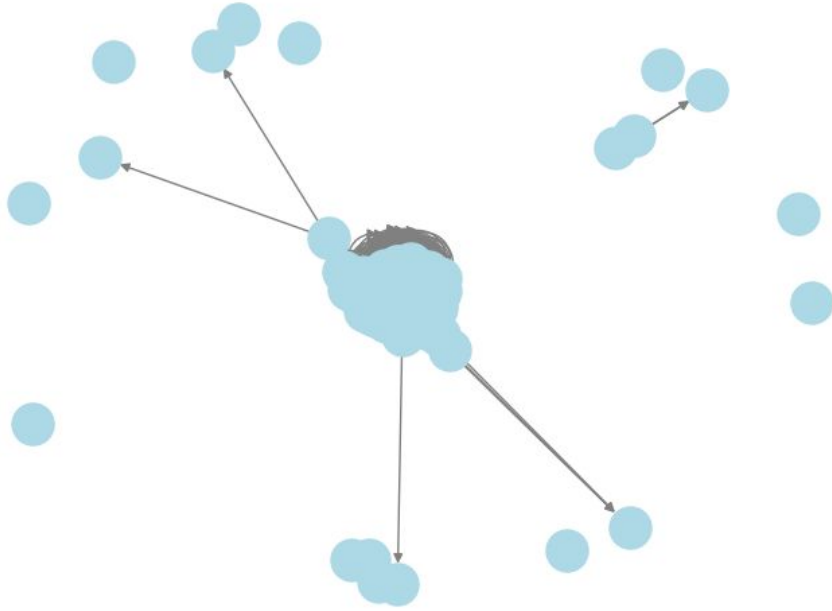


Wikispeedia Network

Análise Exploratória

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A Rede

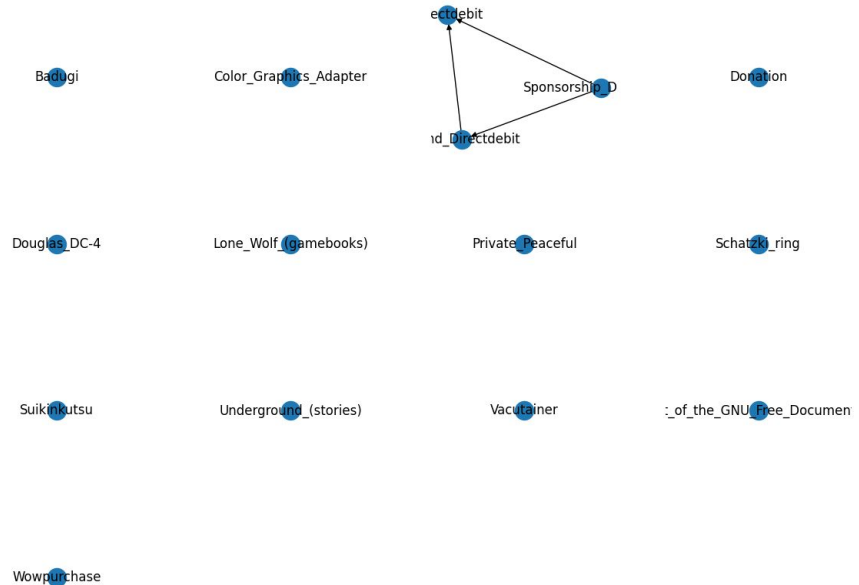
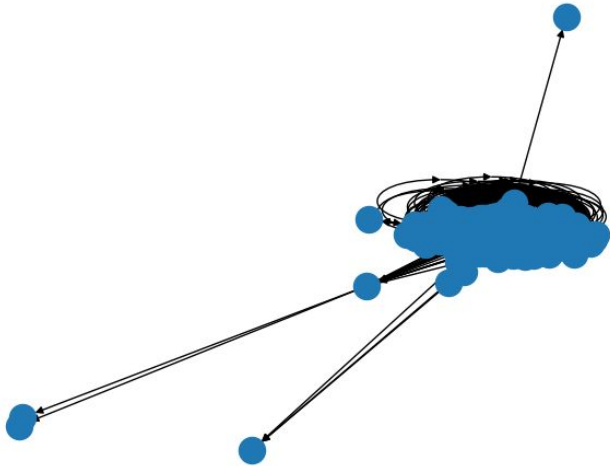


Os nós representam os artigos da Wikipedia e as arestas representam os links entre eles.

```
Number of nodes: 4604  
Number of edges: 119882
```

Componentes Conectados Fracamente

→ Wikispeedia têm 14 componentes conectados fracamente.

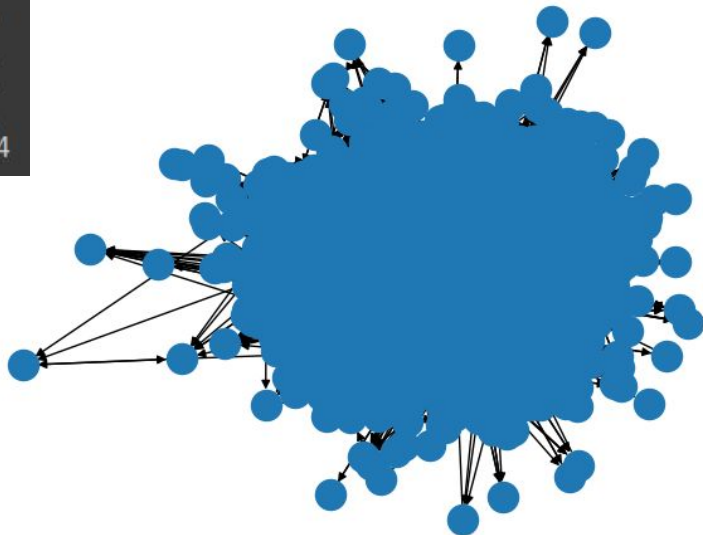


[4589, 1, 1, 3, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1]

Componentes Conectados Fortemente

→ Wikispeedia têm 531 componentes conectados fortemente.

```
1      512  
2      16  
3       1  
6       1  
4051    1  
dtype: int64
```



```
Number of nodes: 4051  
Number of edges: 111900
```

```
% of nodes: 87.99%  
% of edges: 93.34%
```

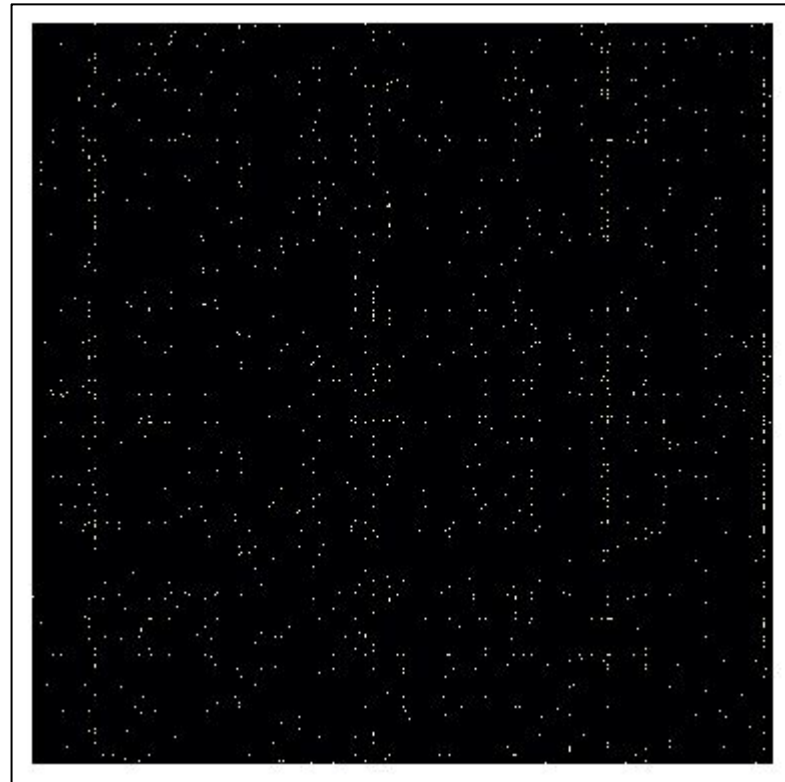
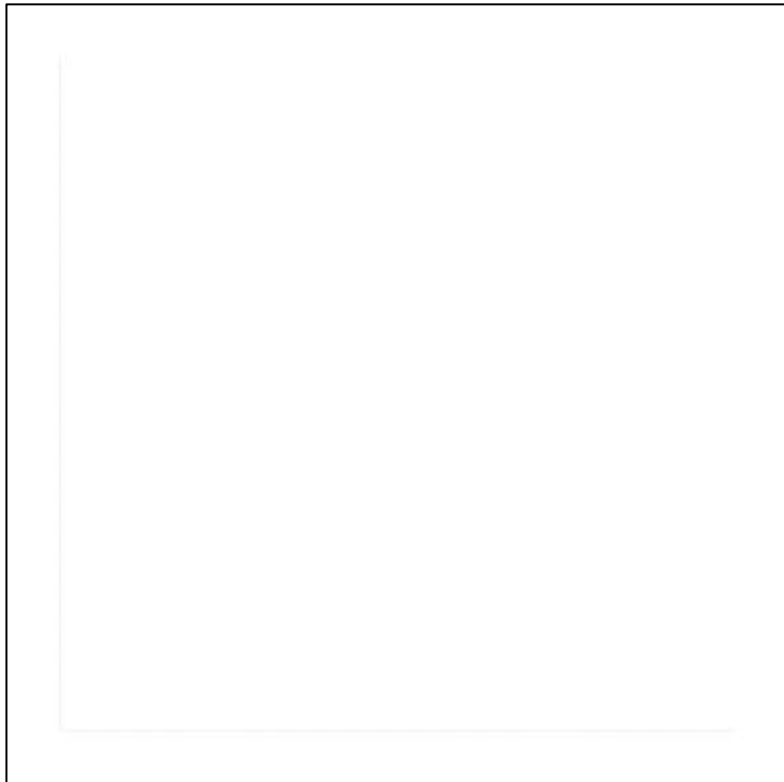
Comunidades da Rede

```
from networkx.algorithms.community import greedy_modularity_communities
```

→ Subgrafo Gerado têm 17 comunidades.

```
3      5
6      2
5      1
7      1
9      1
14     1
20     1
25     1
26     1
1188   1
1320   1
1410   1
dtype: int64
```

Matriz de Adjacência

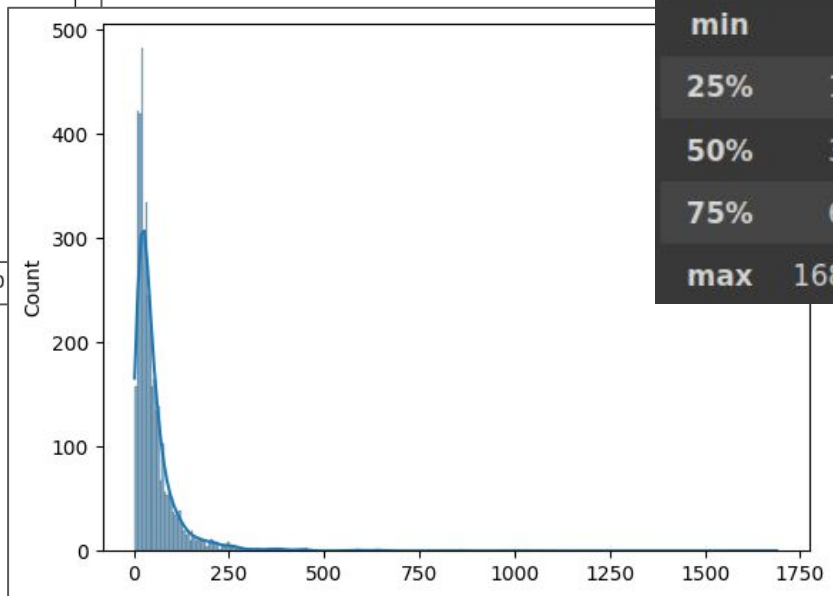
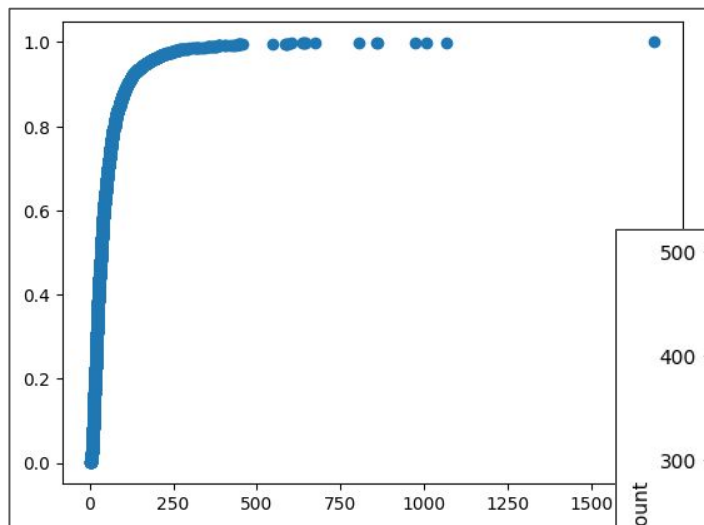


Diâmetro, Periferia e Densidade da Rede

```
nx.is_strongly_connected(subgraph) = True
```

Diâmetro	Periferia	Densidade
9	['Scheme_programming_language']	0.0068204467118315555

Histograma de Distribuição Empírica de Grau



count	4051.000000
mean	55.245618
std	77.134247
min	2.000000
25%	19.000000
50%	34.000000
75%	63.000000
max	1689.000000

Assortatividade Geral da Rede

```
nx.degree_assortativity_coefficient(G)
```

```
-0.05620919781872192
```

```
nx.degree_assortativity_coefficient(G.to_undirected())
```

```
-0.11571399381896205
```

```
nx.attribute_assortativity_coefficient(G, 'degree')
```

```
0.0015350333004950597
```

```
nx.attribute_assortativity_coefficient(G, 'in_degree')
```

```
0.0027773936657300544
```

```
nx.attribute_assortativity_coefficient(G, 'out_degree')
```

```
0.0022815524949146124
```

Coeficiente de Clustering Local e Geral

```
[('Apaochi', 1.0),  
 ('Blokus', 1.0),  
 ('CPU_cache', 1.0),  
 ('Defaka', 1.0),  
 ('Earless_seal', 1.0)]
```

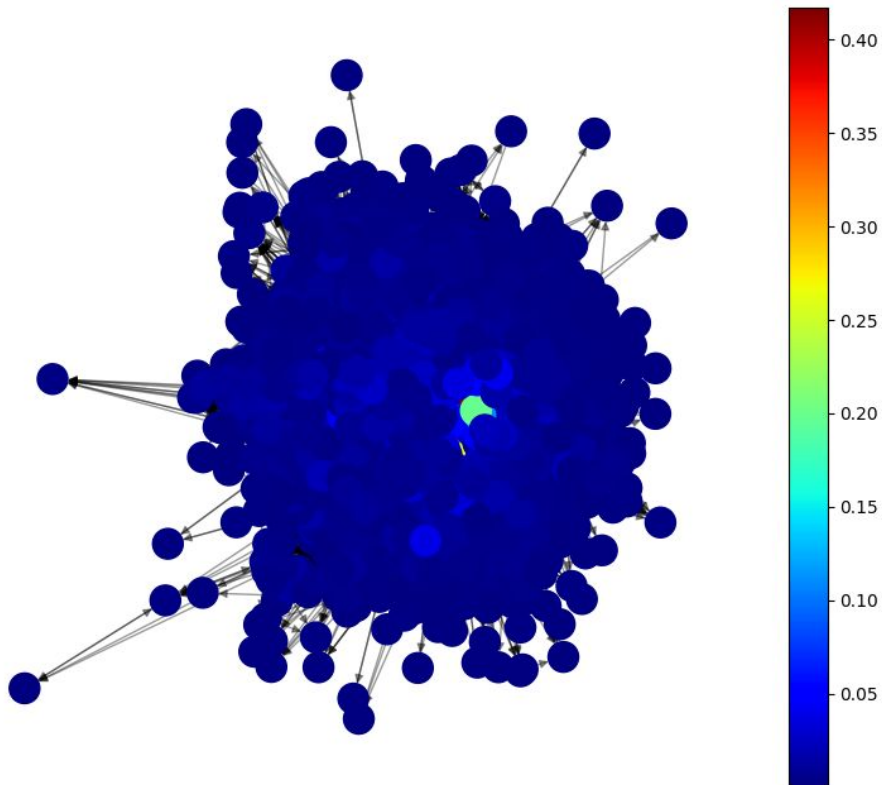
```
[('Achilles_tendon', 0),  
 ('All_your_base_are_belong_to_us', 0),  
 ('Amaranth_oil', 0),  
 ('Animal_law', 0),  
 ('Autobianchi_Primula', 0)]
```

count	4604.000000
mean	0.194941
std	0.125376
min	0.000000
25%	0.111111
50%	0.166667
75%	0.246062
max	1.000000

**Coeficiente de
Clustering Global**

0.1949406447065974

Degree Centrality



count	4051.000000
mean	0.013641
std	0.019045
min	0.000494
25%	0.004691
50%	0.008395
75%	0.015556
max	0.417037

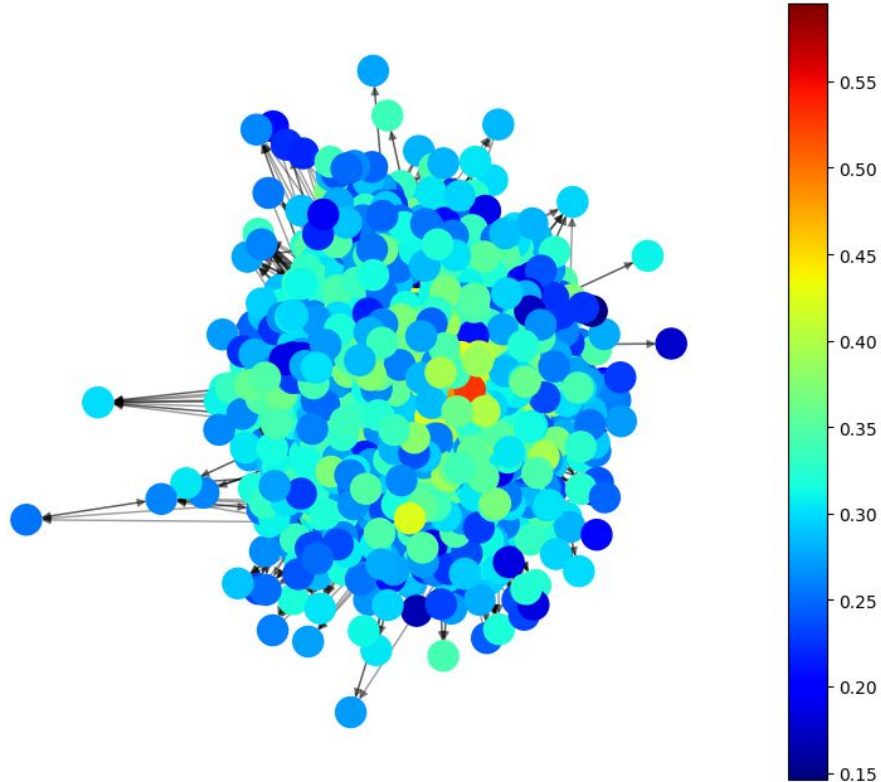
indegree

count	4051.000000
mean	0.006820
std	0.015012
min	0.000247
25%	0.000988
50%	0.002469
75%	0.006914
max	0.344444

outdegree

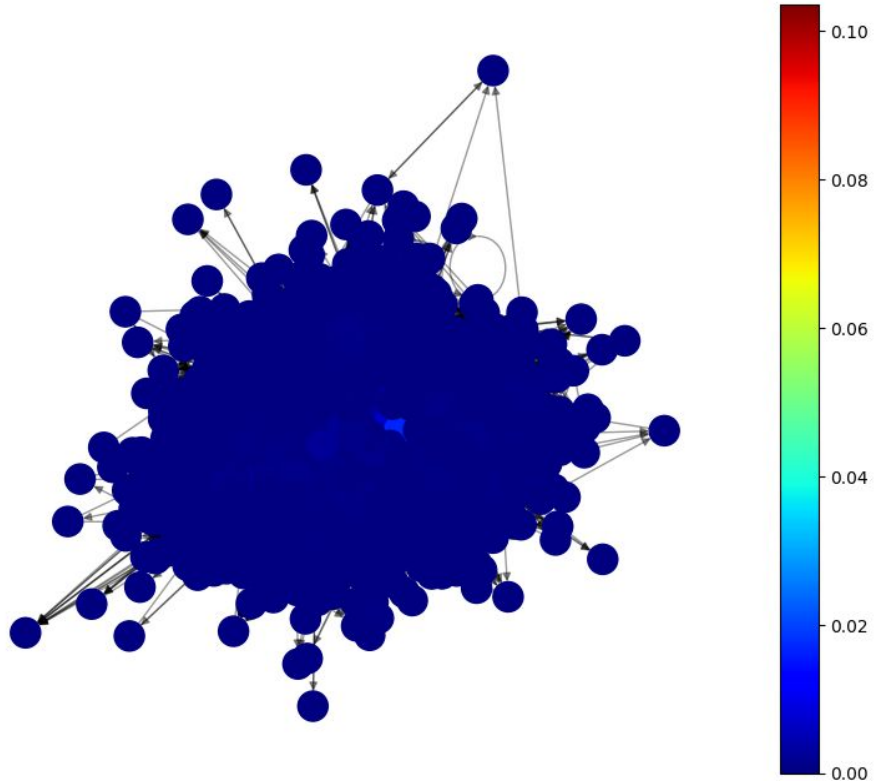
count	4051.000000
mean	0.006820
std	0.006063
min	0.000247
25%	0.002963
50%	0.005185
75%	0.008642
max	0.072593

Closeness Centrality



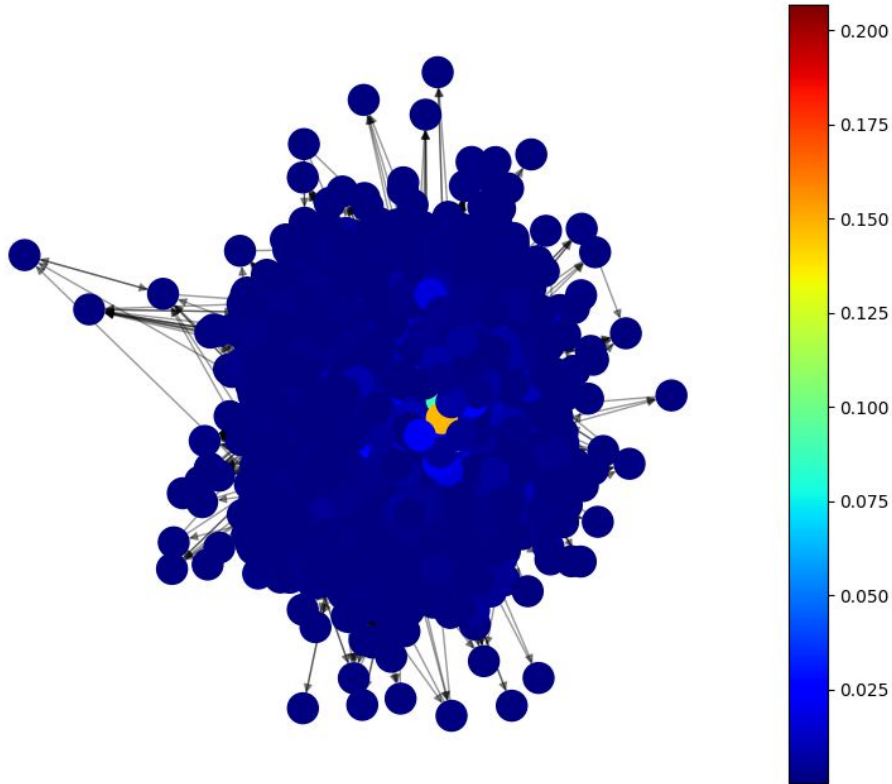
count	4051.000000
mean	0.325279
std	0.058280
min	0.145988
25%	0.283445
50%	0.327564
75%	0.362011
max	0.595151

Betweenness Centrality



count	4051.000000
mean	0.000539
std	0.002334
min	0.000000
25%	0.000017
50%	0.000108
75%	0.000412
max	0.103608

Eigenvector Centrality



count	4.051000e+03
mean	6.001015e-03
std	1.452214e-02
min	2.381207e-10
25%	1.994774e-04
50%	1.272377e-03
75%	4.872457e-03
max	2.068635e-01

Correlação entre as medidas de centralidade

	Degree Centrality	Closeness Centrality	Betweenness Centrality	Eigenvector Centrality
Degree Centrality	1	0,656281	0,802265	0,878058
Closeness Centrality	0,656281	1	0,378566	0,660206
Betweenness Centrality	0,802265	0,378566	1	0,631643
Eigenvector Centrality	0,878058	0,660206	0,631643	1