

Project1 – P3

The folder contains a python file, P3.py and the sampled anonymized edge list, anonymizededges.csv which is the output from Problem1.

P3.py takes the path of the anonymizededges.csv as a command line argument. Use the following commands to execute the script in a command prompt or terminal:

```
python P3.py anonymizededges.csv
```

Output:

- Average Local Clustering : 0.0431384597355
- Global Clustering: 0.00363919069741
The Global Clustering Coefficient is low since Academia.edu is not having many nodes which observe transitivity.
- Page Rank Centrality:

Node	Centrality
1. 935	0.000554160364842
2. 35	0.000557941899775
3. 37	0.000563786575318
4. 743	0.000567207456506
5. 22	0.000568357135895
6. 17	0.000606405210184
7. 52	0.000606413574338
8. 1	0.000688860175835
9. 293	0.000701712707248
10. 2	0.000793636462946
- Eigenvector Centrality:

Node	Centrality
1. 37	0.116099584935
2. 743	0.116518509332
3. 46	0.11832787195
4. 41	0.123998121218
5. 35	0.148511782397
6. 22	0.154405680583
7. 293	0.161880254193
8. 52	0.166028640603
9. 17	0.181895731278
10. 2	0.284637197991

- Degree Centrality:

	Node	Centrality
1.	41	0.00298656047785
2.	743	0.00348432055749
3.	37	0.00348432055749
4.	35	0.00348432055749
5.	22	0.00398208063713
6.	52	0.00447984071677
7.	1	0.00447984071677
8.	17	0.00497760079642
9.	293	0.00846192135391
10.	2	0.0109507217521

- Rank correlation between PageRank Centrality and Eigenvector Centrality: 0.996127284189
- Rank correlation between PageRank Centrality and Degree Centrality: 0.5334714388
- Rank correlation between Degree Centrality and Eigenvector Centrality: 0.533124615591
- Nodes with max Jaccard Similarity : 1200 1213
There are many pairs whose Jaccard Similarity is 1. Only one value is shown here.

Aravinda Kumar Reddy Yempada
1208601637

```
C:\WINDOWS\system32\cmd.exe

F:\Skydrive\ASU\SMM\Project1\P3>python P3.py anonymizededges.csv
Average Local Clustering : 0.0431384597355

Global Clustering: 0.00363919069741

Page Rank Centrality:
935      0.000554160364842
35       0.000557941899775
37       0.000563786575318
743      0.000567207456506
22       0.000568357135895
17       0.000606405210184
52       0.000606413574338
1        0.000688860175835
293      0.000701712707248
2        0.000793636462946

Eigenvector Centrality:
37       0.116099584935
743      0.116518509332
46       0.11832787195
41       0.123998121218
35       0.148511782397
22       0.154405680583
293      0.161880254193
52       0.166028640603
17       0.181895731278
2        0.284637197991

Degree Centrality:
41       0.00298656047785
743      0.00348432055749
37       0.00348432055749
35       0.00348432055749
22       0.00398208063713
52       0.00447984071677
1        0.00447984071677
17       0.00497760079642
293      0.00846192135391
2        0.0109507217521

Rank correlation between Pagerank Centrality and Eigenvector Centrality: 0.996127284189
Rank correlation between Pagerank Centrality and Degree Centrality: 0.5334714388
Rank correlation between Degree Centrality and Eigenvector Centrality: 0.533124615591

Nodes with max Jaccard Similarity : 1200 1213
```