

Project1 – P4

The folder contains a python file, P4.py and the sampled anonymized edge list, anonymizededges.csv which is the output from Problem1.

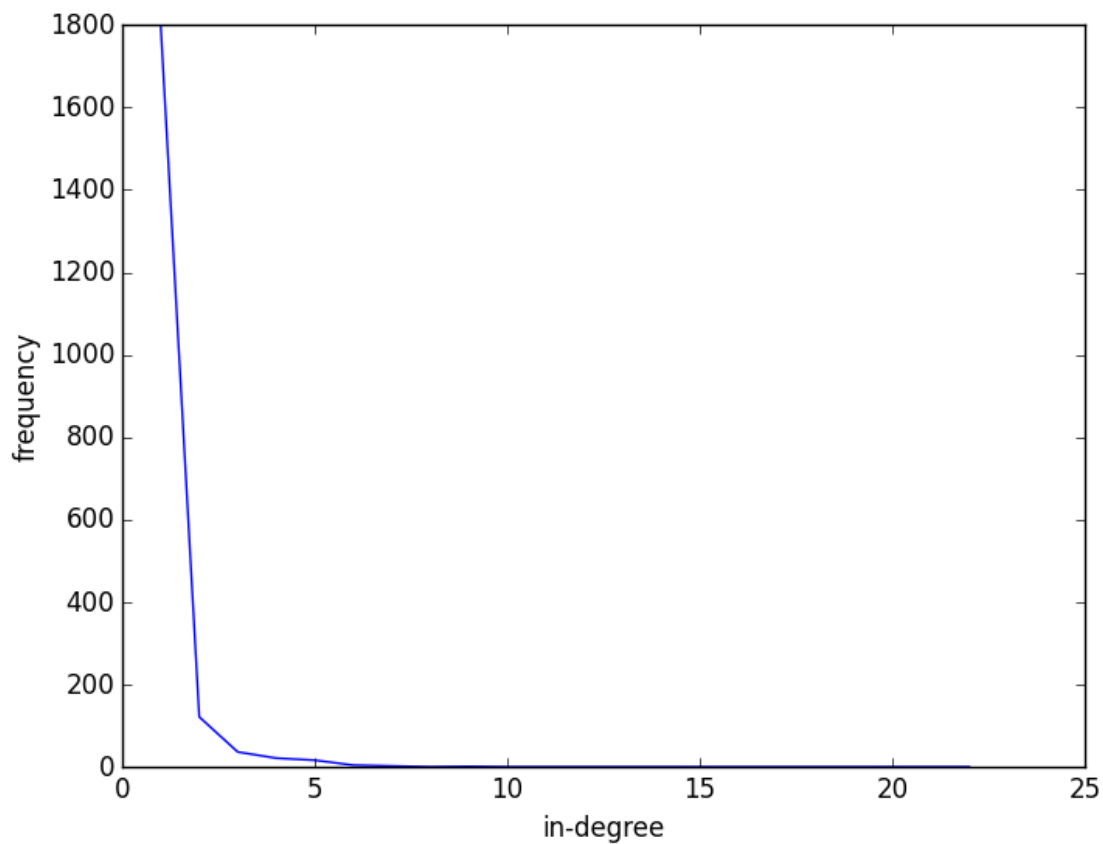
P4.py takes the path of the anonymizededges.csv as a command line argument. Use the following commands to execute the script in a command prompt or terminal:

```
python P4.py anonymizededges.csv
```

Output:

Degree Distribution

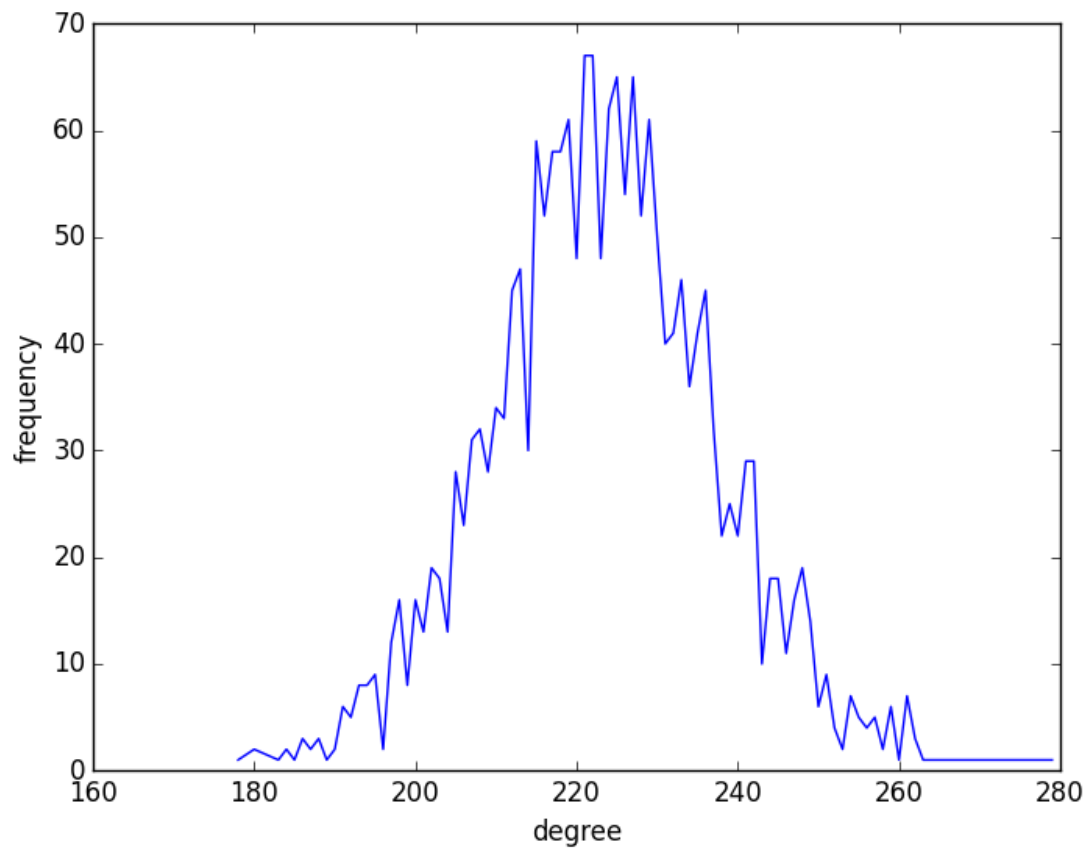
- Original Graph



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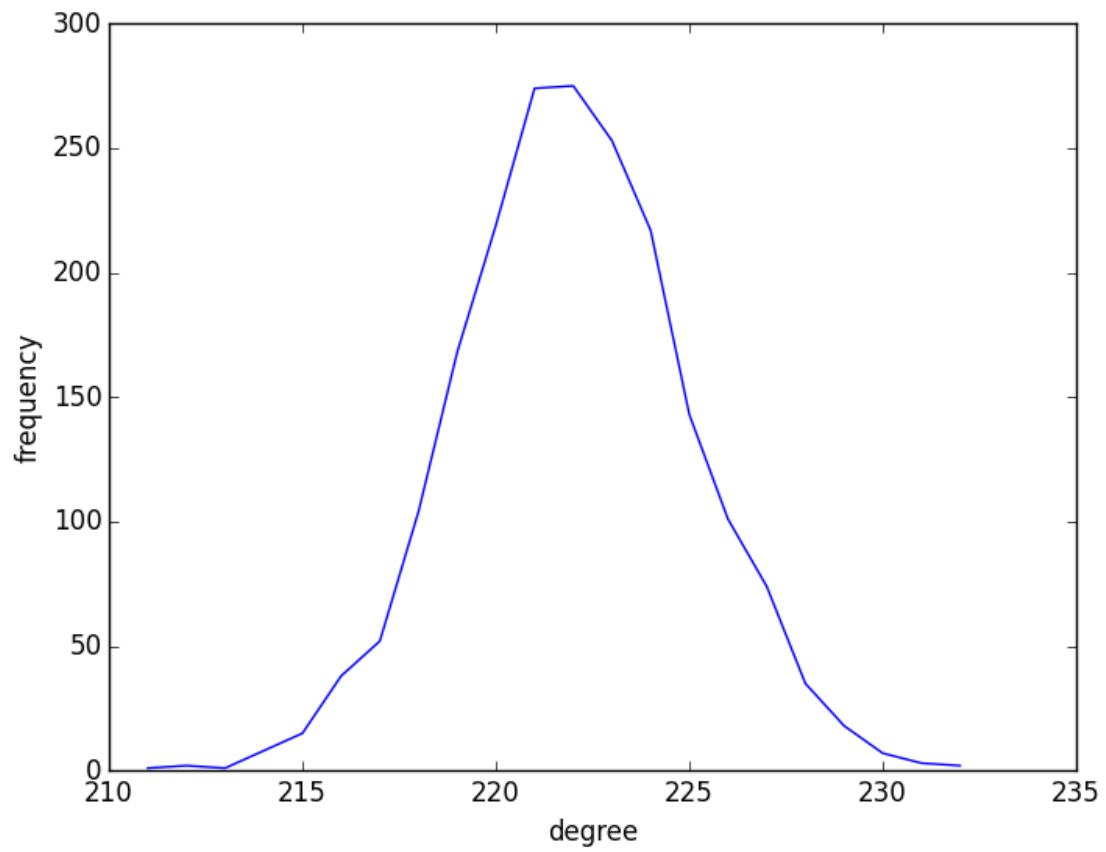
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Random Graph



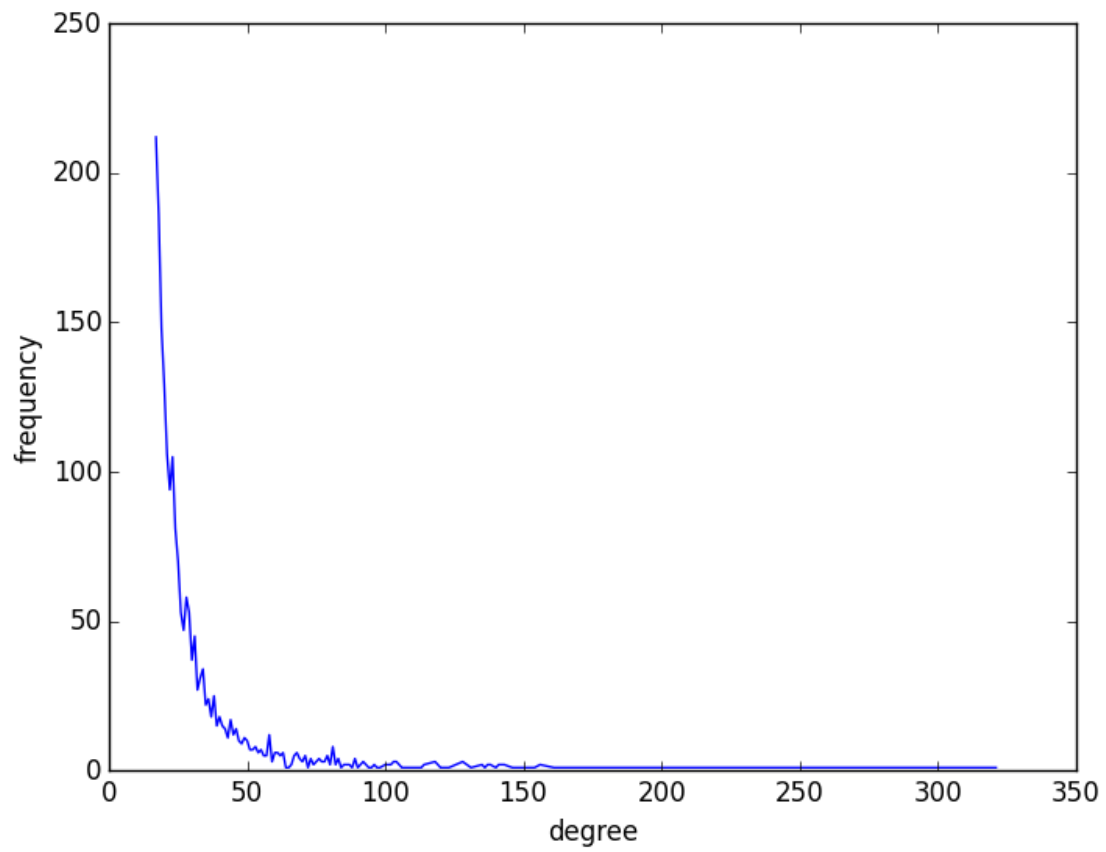
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Small World Model



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Preferential Attachment Model



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Comparison :

	Real-world graphs	Random Graphs	Small World Model	Preferential Attachment
Degree Distribution	Power-Law	Poisson	Poisson	Power-Law
Clustering Coefficient	0.00363919069741	0.111370963526	0.656356167806	0.0501319688695
Average Path Length	3.97074507998	1.40576374813	1.97448001407	3.74873279997

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

F:\Skydrive\ASU\SMM\Project1\P4>python P4.py anonymizededges.csv
Original Graph
-----
Global Clustering: 0.00363919069741      Average path length : 3.97074507998

Random Graph Model
-----
Global Clustering: 0.111370963526      Average path length : 1.40576374813

Small World Model
-----
Global Clustering: 0.656356167806      Average path length : 1.97448001407

Preferential Attachment Model
-----
Global Clustering: 0.0501319688695      Average path length : 3.74873279997

F:\Skydrive\ASU\SMM\Project1\P4>
```