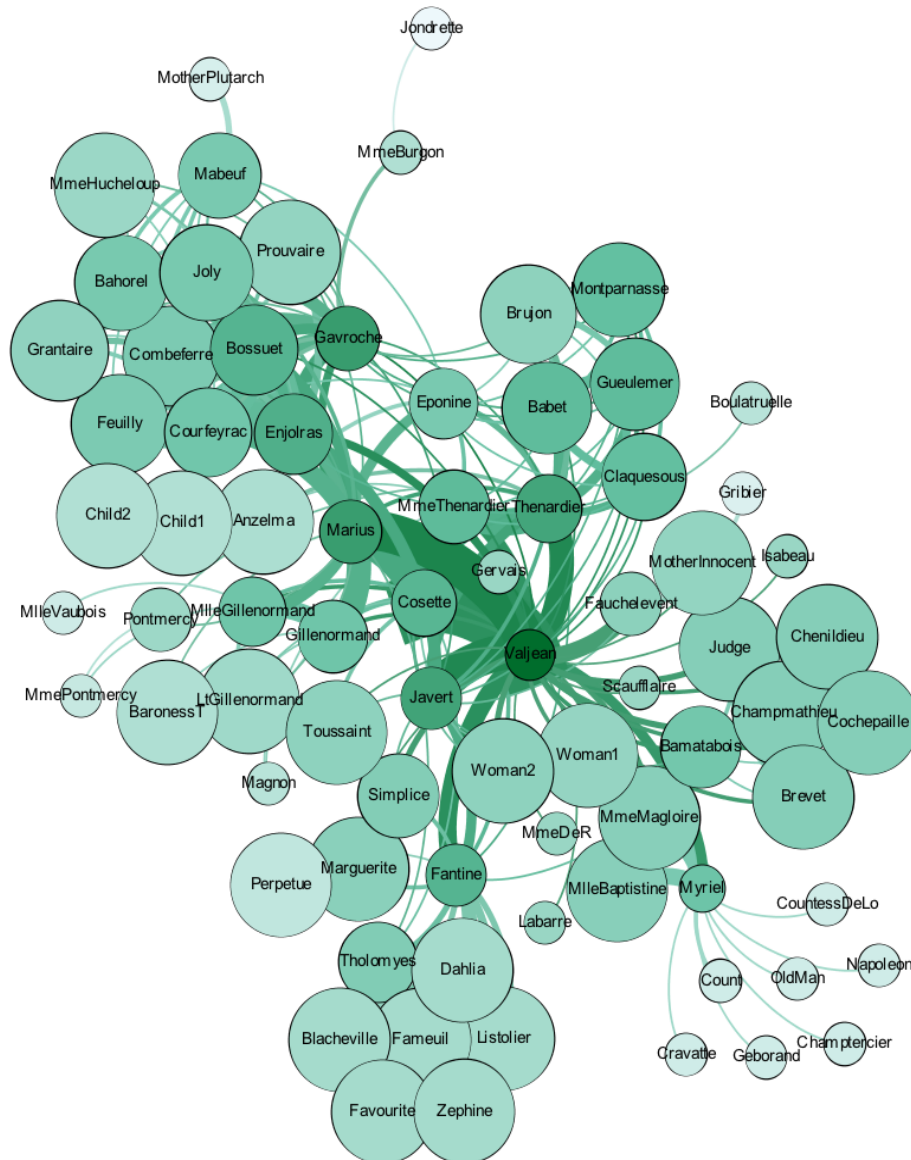


Assignment Gephi

A. Les Miserable Graph

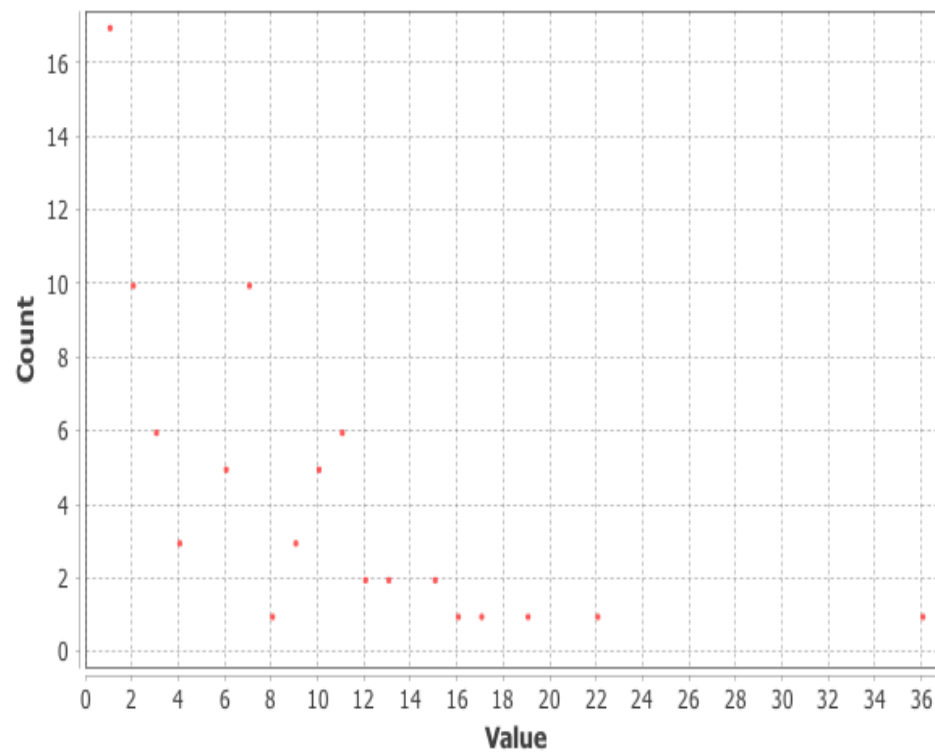


Number of Nodes: 77

Number of Edges: 254

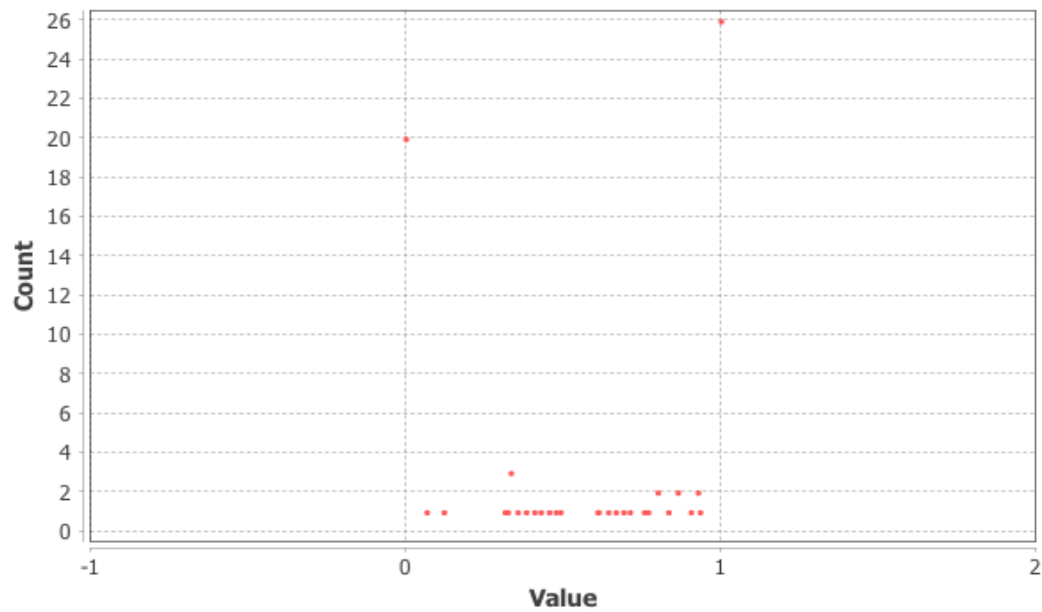
Average Degree Distribution: 6.597

Degree Distribution



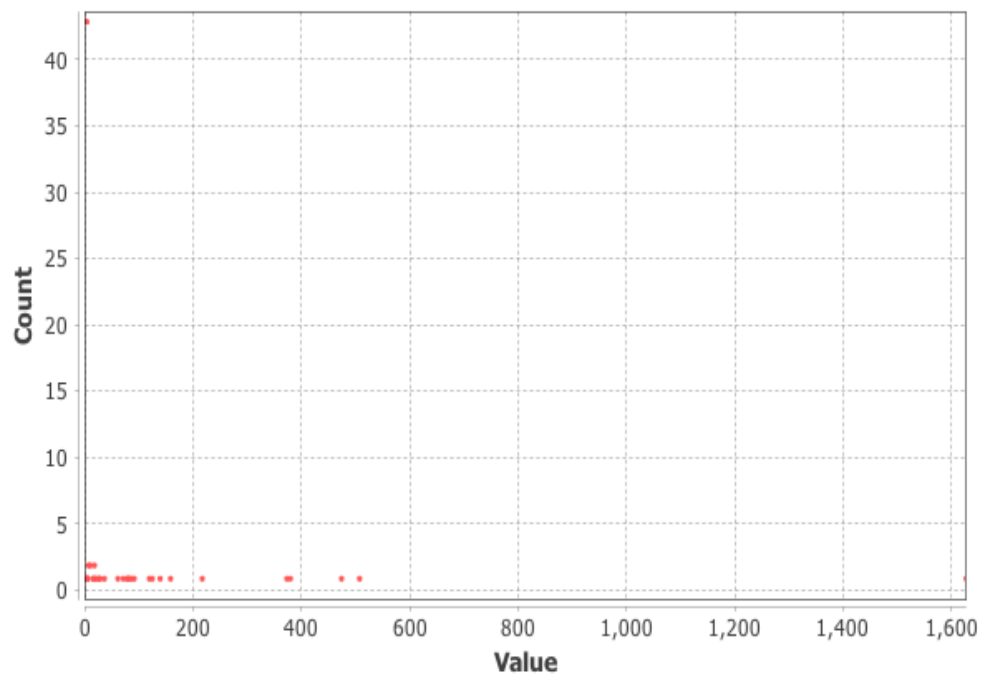
Average Clustering Coefficient: 0.736

Clustering Coefficient Distribution

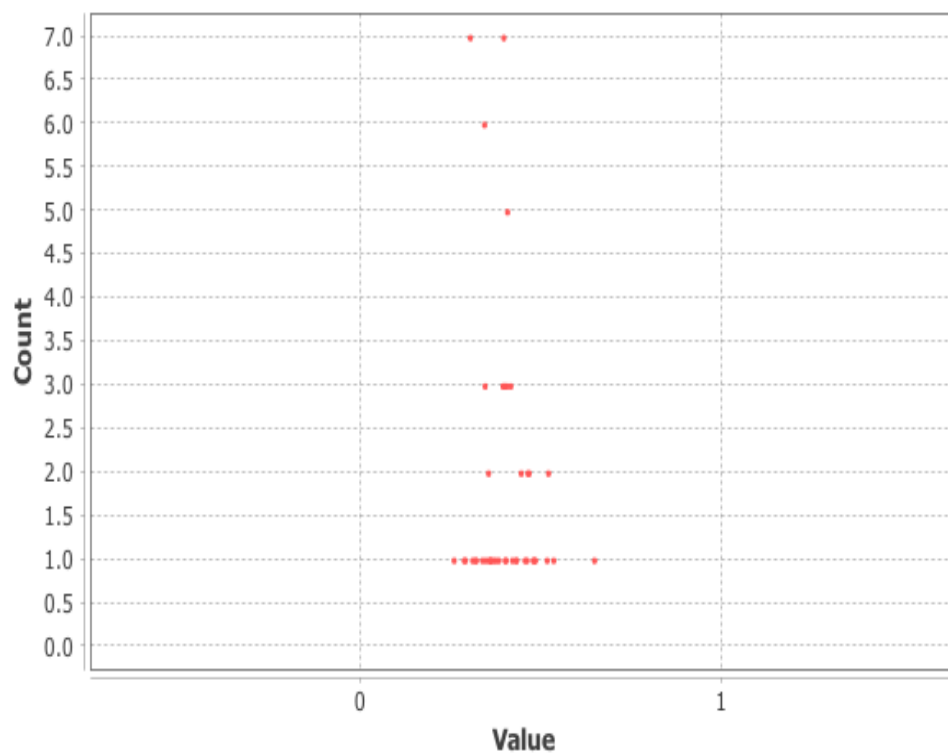


Average Shortest Path length: 2.6411483253588517

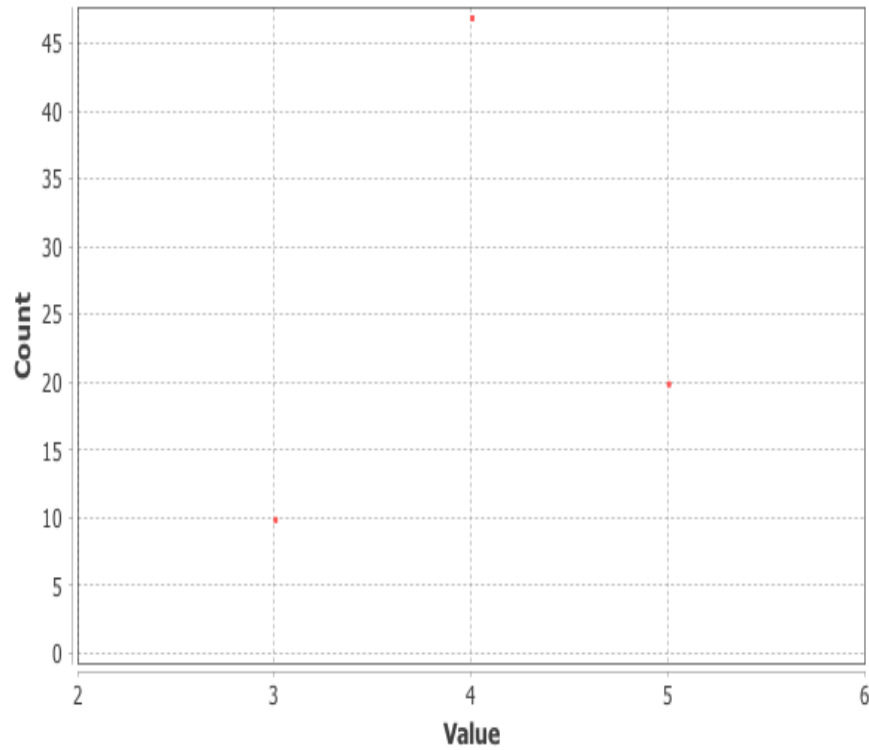
Betweenness Centrality Distribution



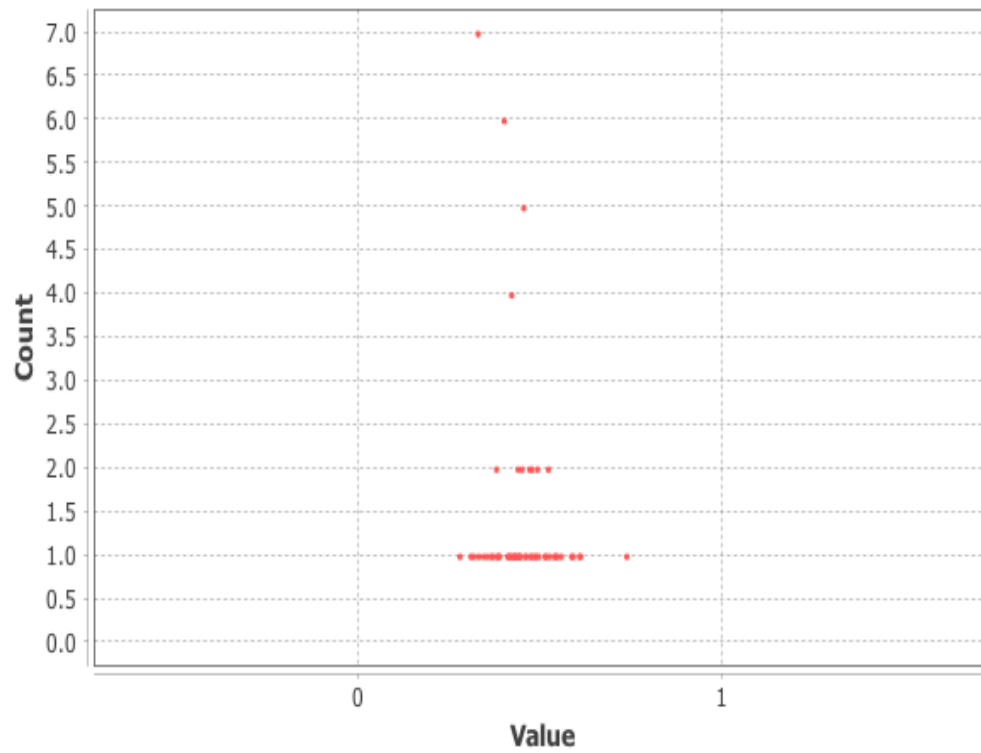
Closeness Centrality Distribution



Eccentricity Distribution

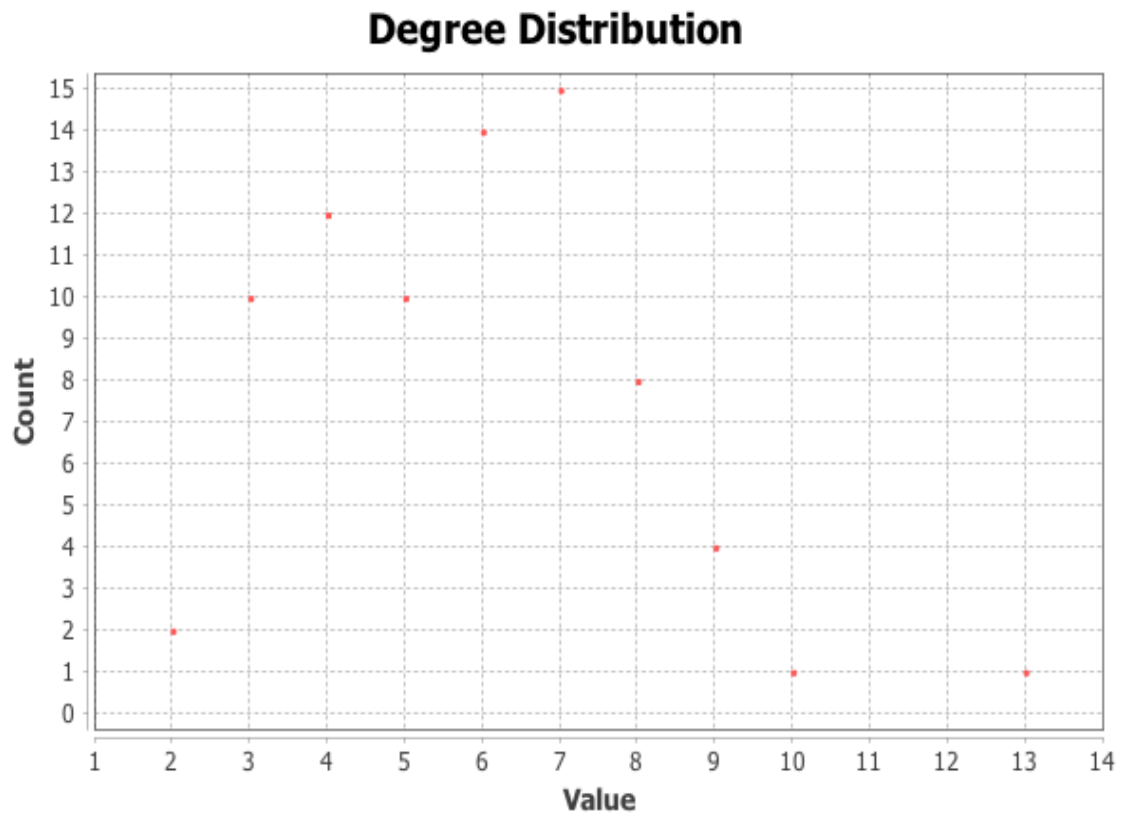


Harmonic Closeness Centrality Distribution



Number of nodes:77
Number of edges:222

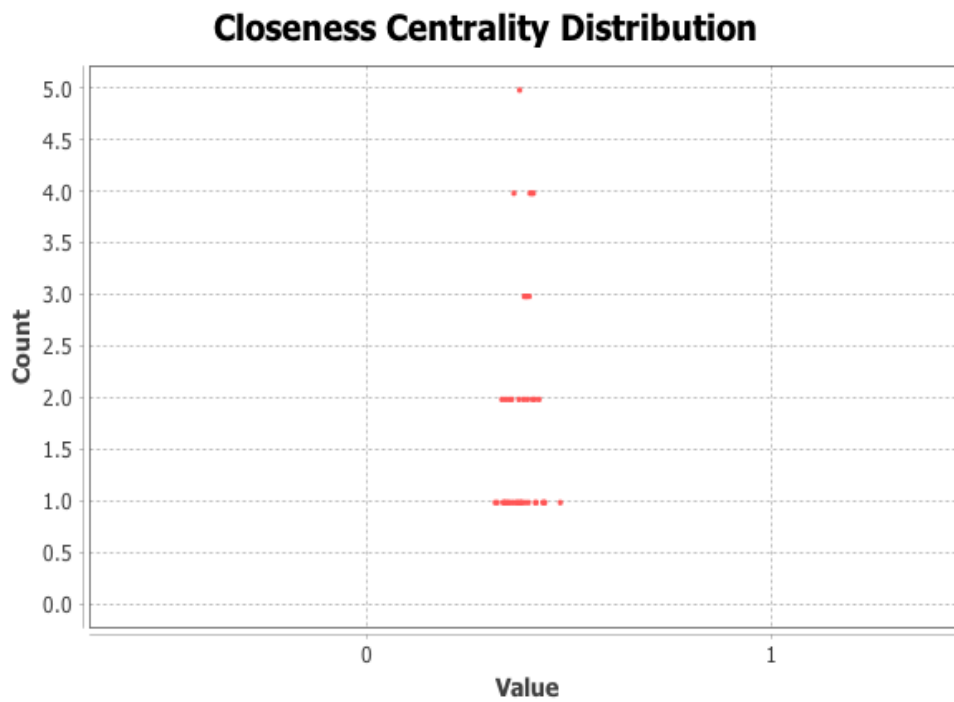
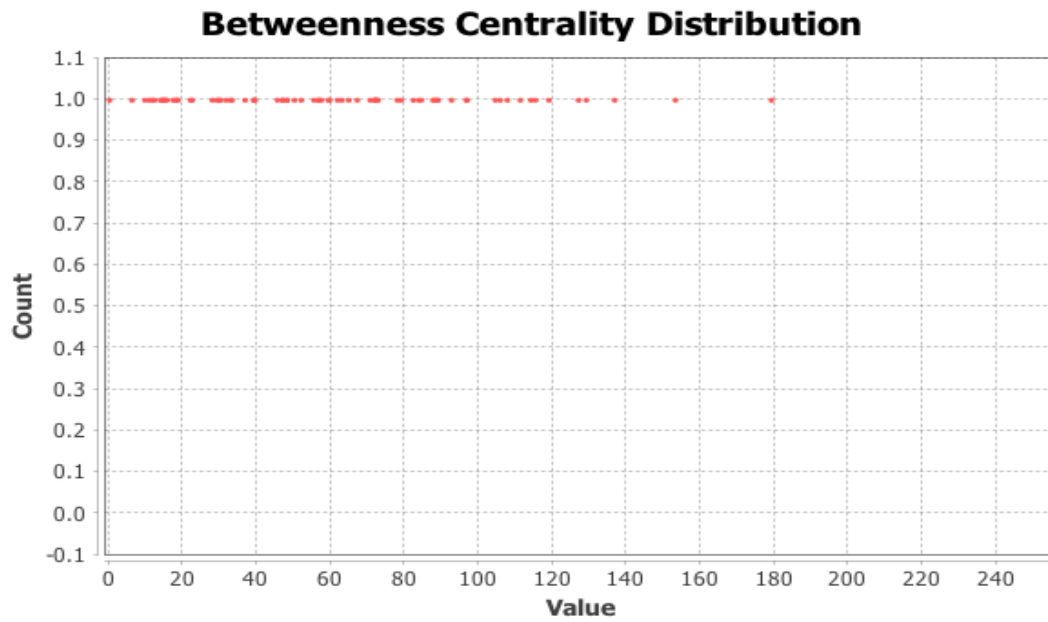
Average Degree Distribution: 5.766



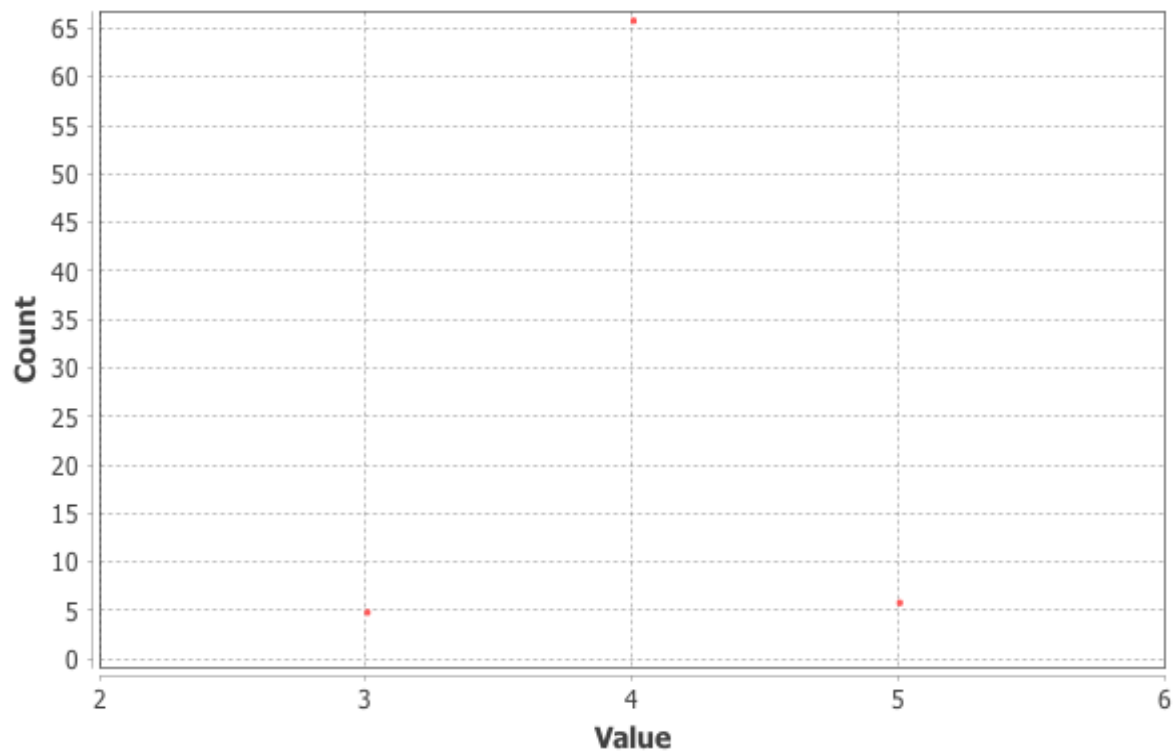
Average Shortest path length: 2.6353383458646618

Radius:3

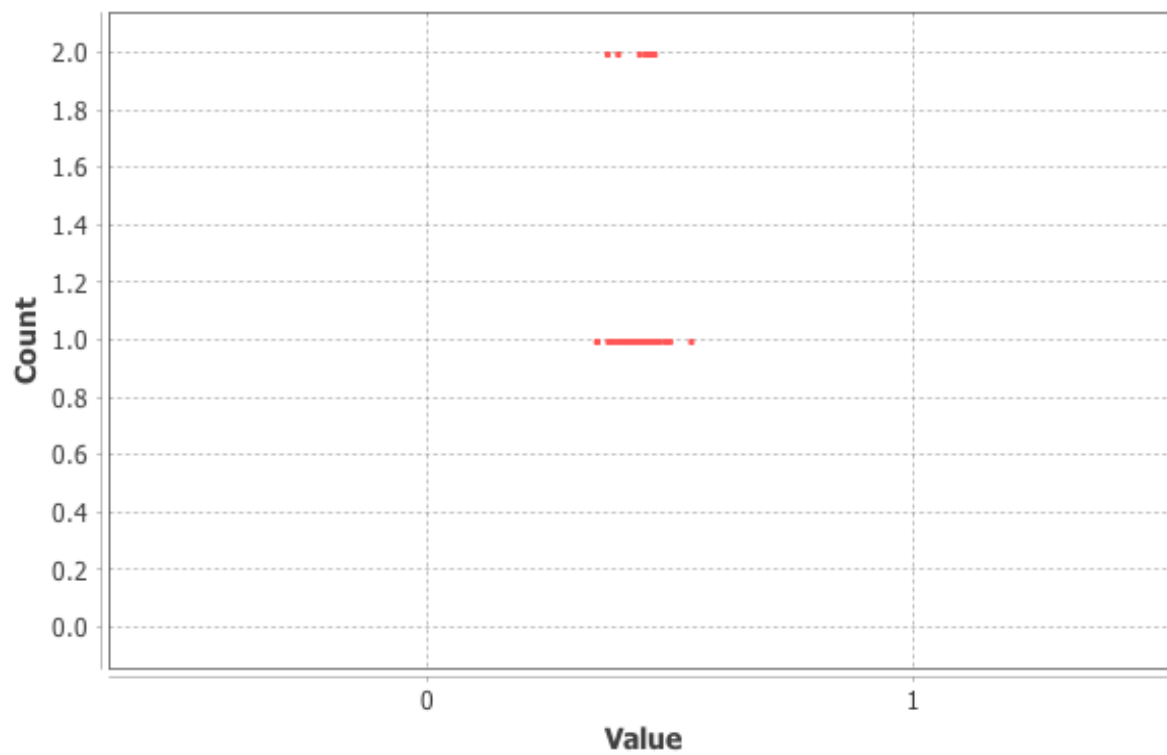
Diameter:5



Eccentricity Distribution



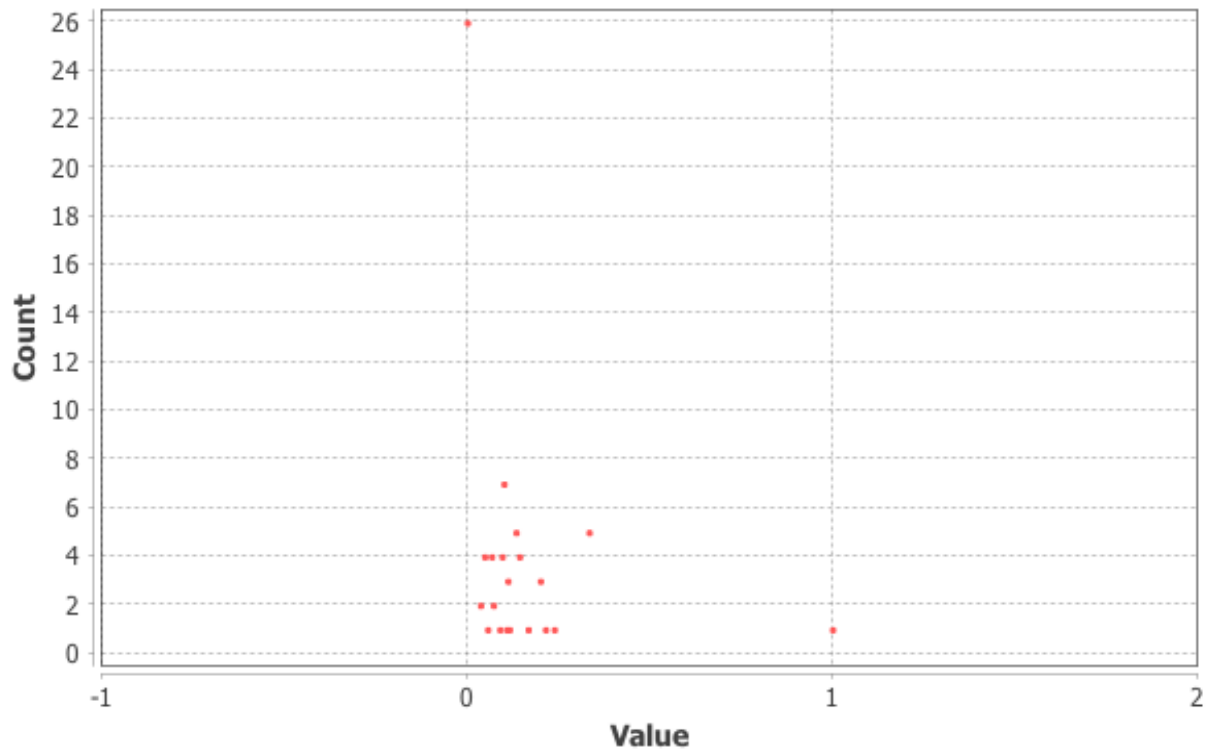
Harmonic Closeness Centrality Distribution



Average Clustering Coefficient: 0.098

Total Triangles: 37

Clustering Coefficient Distribution



Questions & Answers

1. Degree Distribution between the real graph and random graph vary.
Yes, the degree distribution does vary. In Random graphs, nodes are connected to one another with probability p . In case of real world graphs, nodes do not have typical number of neighbors as in small number of nodes may be highly connected and some nodes have few links to other nodes. So, real world networks exhibit scale free graphs. The degree distribution of the real-world networks is highly skewed as compared to random graphs.
Random graphs follow Poisson distribution for the degree distribution and scale free graphs follow power law distribution.
2. Is the real graph more clustered than the random graph? What might this tell you about the organizing principles of the real graph?
Yes, the real graphs are more clustered than the random graphs. This is because the real-world graphs show behavior of preferential attachment where we see that an

individual who is more popular people prefer to link with them and their friends. We are able to see small hubs within the real-world networks.

3. Does real graph exhibit small world property?

Yes, real graph exhibits small world property i.e the shortest path among the nodes. In real world graph, we can find a node by following short paths.