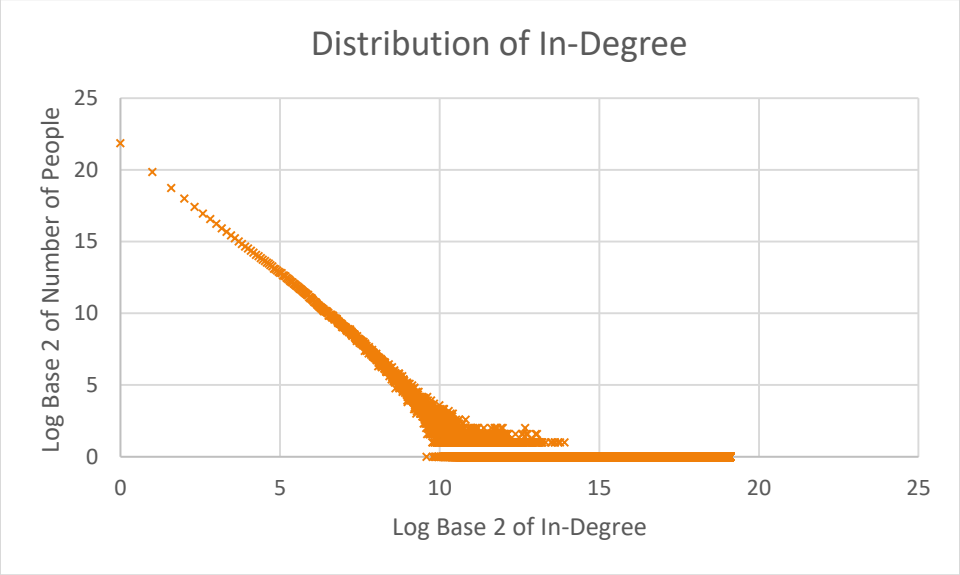
CSC443 Assignment 1 Part 2 Research Results

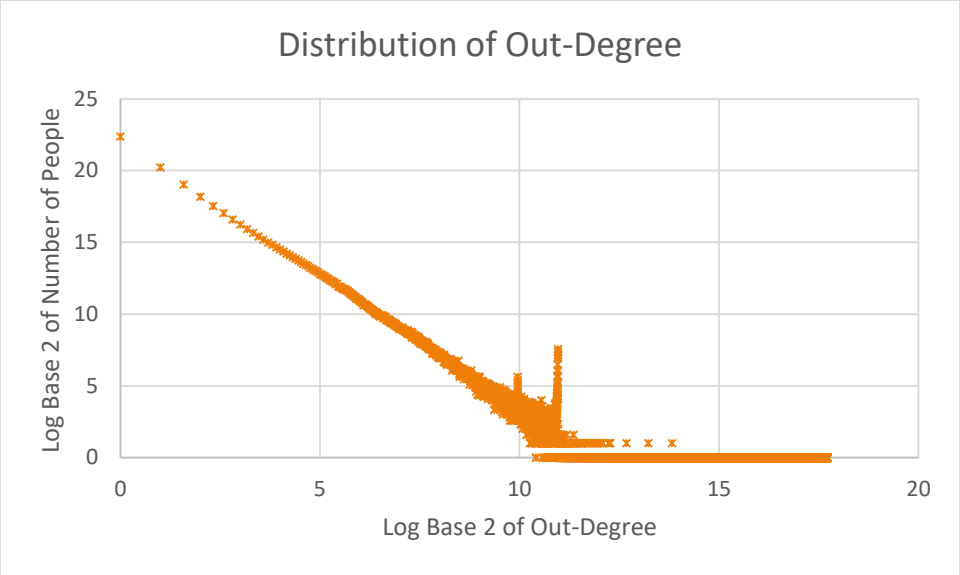
RESEARCH: TWITTER GRAPH DEGREE DISTRIBUTIONS

Experiment

We wrote a C program named “distribution” to get the counts (number of degrees) for in-degree (number of followers per UID) and out-degree (number of people a UID followers) for all degrees (from 1 to the maximum degree). The program outputs two text files (one for in-degree and one for out-degree) that each file contains two columns. The first column is the degree and the second column is the counts for the corresponding degree. The rows are sorted in an increasing order.

After running the C program, we import the two files generated by it to Excel, calculated the log of the degree and counts columns, and plotted the data using a scattered form diagram. The result we got is shown below:





Conclusion

The diagram demonstrates that both in-degree and out-degree exhibit a power-law distribution. The larger the degree, the fewer the count. Also, the difference between the median and maximum degree is very large.