

Node Outdegree

Description

The *outdegree* of a node of a directed network is the number of edges outgoing from the node. The algorithm determines the outdegree of all nodes (outdegree sequence), which will be listed in the output file.

Pros & Cons

The network to analyze must be directed, otherwise there are no special constraints.

Applications

Basic analysis tool, not particular for special disciplines or problems.

Implementation Details

The algorithm requires only one input, the file where the edges of the network are listed. A first read-in of the inputfile will set the values of the number of nodes and edges of the network. In the second read-in the outdegrees of all nodes will be calculated. The program runs in a time $O(m)$, m being the number of edges of the network.

Links

- [Source Code](#)

Acknowledgements

The algorithm was implemented and documented by S. Fortunato, integrated by S. Fortunato and W. Huang.

References

Bollobas, B. (2002) Modern Graph Theory. Springer Verlag, New York.

Albert, R., and Barabasi, A.-L. (2002) [Statistical mechanics of complex networks](#). Review of Modern Physics 74:47-97.

Newman, M.E.J. (2003) [The structure and function of complex networks](#). SIAM Review 45:167-256.

Pastor-Satorras, R., Vespignani, A. (2004) Evolution and Structure of the Internet. Cambridge University Press.

Boccaletti, S., Latora, V., Moreno, Y., Chavez, M., Hwang, D.-U. (2006) [Complex networks: Structure and dynamics](#). Physics Reports 424: 175-308.

See Also



The license could not be verified: License Certificate has expired! [Generate a Free license now.](#)