CS 494/594, Graph Algorithms, Applications and Implementations
Sprint 2015, Homework 1

Write a program that reads a simple, unweighted, undirected graph from a file and outputs to standard output the minimum degree, maximum degree, and density of the graph.

Use of C/C++ is recommended, but you can choose any programming language you wish, with the following stipulations:

1) Your program must compile and run when invoked from the Linux command line on any of the EECS Ubuntu machines, using only software currently installed.
2) Your program must take the name of a graph file as a command-line argument.
3) Your program cannot use any data structure or routine from any graph library (e.g. Boost).
4) Your program must read the graph into an adjacency matrix, clearly commented as such in your code.

Programming languages that we know work on the lab machines include C/C++, Perl, Python, and Java.

An example graph file is attached. A user should see something like the following when invoking your program (assuming your executable is named “degree”).

```
>./degree graph1.txt
Minimum degree: 2
Maximum degree: 5
Density: 0.53571428
>
```

Submit your program by emailing all necessary source code (including any needed makefile) and any other files necessary to compile and run your code to cphill25@utk.edu prior to the beginning of class next Wednesday, January 14. If you have any questions, please do not hesitate to email me or drop by during office hours.