Project II: Google PageRank

This project is based around the paper "The $25,000,000,000 eigenvector" by Kurt Bryan and Tanya Leise, a copy of which can be found on the course website. The *minimum* you should do for this project is:

- Read sections 1, 2, and 3;
- Hand in a 1-2 page on your favorite part or parts of the paper: you should go into detail about the precise results and logical structure of your favorite section. For instance, if Section 3.2 is your favorite, you might explain in detail how to prove that the dimension of V_1(M) is 1.
- Hand in complete solutions to exercises 1, 2, 3, 4, 11, 12, and 13 from the paper. You may need to use Mathematica in order to make some of the matrix computations easier; see the instructions towards the end of the Project I description for details on how to get started. In your write-up, you only need to include the output from your Mathematica code, not the code itself.

Doing these parts correctly will give you a grade of B+. I encourage you to hand in solutions to one or more of exercises 5, 6, 8 and 10 as well; doing so will boost your grade. In addition, handing in any other exercises from the paper will be welcomed and rewarded. The material in Section 4 gives an interesting practical method for finding an eigenvector of a very large matrix, and might be a direction you would like to pursue.