Computational Homework 3 (extra credit), due March 16th

Do the following tasks:

1. Download the program **doolittle.m**.

2. Modify **doolittle.m** to include partial pivoting.

3. Test it on the several matrices (of your choice) where pivoting is needed; i.e. these matrices would fail to factor under *doolittle.m* but are factorable using your version of the code. These tests are to be turned in as your results. Make sure your code detects when factoring is not possible.

For fun; i.e. not graded.
4. Modify the code **doolittle.m** to ($crout.m$) where U has $1's$ on its diagonal entries.

For fun; i.e. not graded.
5. Modify the code so that the diagonal entries on L is $a_{kk} = 1$ for k is odd and the diagonal entries on U is $a_{kk} = 1$ for k is even. And vice versa.