Math 446/546 **Spring 2009**
Homework 6, due Thursday 14 May.

1. (50 points) Do this problem as a Good Problem, paying attention to the *Intros* handout.

   Use Householder's method to bring

$$A = \begin{bmatrix} 5 & -2 & -0.5 & 1.5 \\ -2 & 5 & 1.5 & -0.5 \\ -0.5 & 1.5 & 5 & -2 \\ 1.5 & -0.5 & -2 & 5 \end{bmatrix}$$

   to tridiagonal form.

2. (40 points) Apply two iterations of the QR algorithm to the matrix

$$A = \begin{bmatrix} 1 & 1 & 0 & 0 \\ 1 & 2 & -1 & 0 \\ 0 & -1 & 3 & 1 \\ 0 & 0 & 1 & 4 \end{bmatrix}.$$

3. (10 points) (446 students do this individually.) Outline what you are going to do for your final project, based on the guide.