Problems 2.

1. Please write down a 10 x 15 matrix and use the Singular Value Decomposition (SVD ) given in the webnote 2. at <http://nr.com/webnotes/>.
2. Please write down a 10 x 10 band matrix and then invert it. Please now add a column to the matrix and using the Sherman Morrison formula, please evaluate the matrix in the quickest way.
3. Much, much harder. Please do not waste too much time on this one.

Please write down a matrix of the form a\_IJ = 1/(I + J+ 1) and invert. It is called a Hilbert matrix.