Homework 11

Due April 10th

Code:

a. Implement Algorithm 294. See how many iterations it takes to get an additional sig fig of accuracy for many different matrices. Measure how the number of additional iterations needed depends on the condition number of the matrix.

b. Use Gramm Schmidt to generate an orthogonal basis of four dimensional vectors, starting with a random vector. Demonstrate orthogonality.

c. Use Orthogonalization of Moments to generate an A-orthogonal basis for a Krylov subspace of four dimensional vectors, starting with a random vector. Demonstrate A-orthogonality