Signal Processing and Analysis

Homework 3

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Matrix eigenvalue problems

Evaluate all the eigenvalues and eigenvectors as follows in Householder's tridiagonalization and then QR-factorization method.

$$\begin{bmatrix} 1 & 2 & 3 & 4 & 5 \\ 2 & 3 & 4 & 5 & 4 \\ 3 & 4 & 5 & 4 & 3 \\ 4 & 5 & 4 & 3 & 2 \\ 5 & 4 & 3 & 2 & 1 \end{bmatrix}$$