eigenvalue decomposition summarized

- If Q^{-1} exists, then we can write

  $A = QDQ^{-1}$ eigenvalue decomposition

  $Q^{-1}AQ = D$ diagonalization of A

- Under what condition would Q^{-1} exist?
  - If the columns of Q are linearly independent
  - i.e. if A has n linearly independent eigenvectors
  - i.e. if A has n distinct eigenvalues

- If A is symmetric, we get an even more convenient situation
  - The eigenvalues are orthogonal