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Octave Commands for extracting Spectral radius and Convergence Rate

1. data = load(‘Kmat.txt’)
2. A = reshape(data, n, n) !where n is the number of points i.e. dimension of matrix
3. size(A) !to check the size of matrix
4. d = diag(A) !to extract the diagonal values of matrix A
5. D = diag(d) !to convert 1D diagonal matrix to square diagonal matrix
6. Dinv = inv(D) !to calculate inverse of square diagonal matrix D3,3
7. G = Dinv\*(D - A) ! iteration matrix for jacobi
8. Eig = eig(G) ! to calculate eigen vector of iteration matrix G
9. specRad = max(Eig) ! maximum modulus of eigenvalues of iteration matrix G
10. convRate = -log(specRad) !convergence rate

other commands

triu(A) à will give upper triangular matrix

tril(A) à will give lower triangular matrix