

Let A be an upper triangular matrix. Clearly, the eigenvalues of A coincide with the diagonal elements a_{ii} . On the other hand, Gershgorin circle theorem (Satz 2.4) provides an estimate for the distance of eigenvalues to the diagonal elements a_{ii} . Using the Gershgorin circles in a clever way, prove that the eigenvalues of A actually coincide with the diagonal elements a_{ii} .