

The diploma thesis is concerned with the topic of eigenvalues of matrices and their localization in the complex plane. First introducing general theorems concerning eigenvalues, eigenvalues for special classes of matrices are then discussed. After presenting the theory of Jordan and Weyr canonical forms, the connection and relation of these two forms is also explained. The estimates of the localizations of the eigenvalues follows from Gershgorin's theorem. This text might be used as a didactic material for college-level students of mathematics, thanks to its form having theoretical parts accompanied by examples with commented solutions. It may also be used as a source of information for anyone interested in extending their knowledge of linear algebra.