Abstract: The bachelor thesis deals with tests of variance equality in the context of simple classification. It focuses on three tests commonly used in practice. The thesis first provides an overview of concepts and knowledge from probability theory, which are utilized in subsequent chapters. Additionally, a one-way analysis of variance is introduced, which is crucial for the tests of variance equality. In the main part of the thesis, the Levene test is derived, followed by the Brown-Forsythe test, which is its modification. The Bartlett test is also presented. Finally, simulations were conducted using the R program to determine the ability of the tests to maintain the desired significance level.