Abstract: The goal of this bachelor thesis is to give a basic theoretical background for working with time series with the usage of autocorrelation and decomposition methods, as well as to apply these methods on real data in selected software. The interpretation of the results is closely related to the comparison of advantages and disadvantages of the methods. We have used the software Wolfram Mathematica and NCSS. The main contribution of the thesis is the connection of both theoretical and practical approach, which was not performed similarly in Czech or Slovak literature in the time of elaborating the thesis.

Keywords:
time series, autocorrelation methods, decomposive methods, Wolfram Mathematica