Homework 2

1. Consider the monthly simple returns of CRSP Decile 1, 2, 5, 9, and 10 portfolios in the file `data_hw2.txt`. The data span is from January 1961 to September 2011. Answer each question in complete sentences. You need to provide appropriate R codes for each of the question.

    (a) For the return series of Decile 2 and Decile 10, test the null hypothesis that the first 12 lags of autocorrelations are 0 at the 5% level. Draw your conclusion.

    (b) Build an ARMA model for the return series of Decile 2. Perform model checking and write down the fitted model.

    (c) Use the fitted ARMA model to produce 1- to 12-step ahead forecasts of the series and the associated standard errors of forecasts.