Homework 7

For this assignment, a Word file with the answers to the questions found below should be submitted to the appropriate dropbox on My Learning Space. There is no need to submit code, as I have provided most of that for you.

Read through the time series analysis handout posted under the homework section. Download the "beer.csv" file and the "Homework7.Rmd" file from My Learning Space. The beer.csv file contains quarterly beer production quantities for Australia. The first column is quarter number and the second column is the quantity. Follow the code in Homework7.Rmd and answer these questions:

1. Is the time-series stationary? How do you know? (2 marks)

2. Assess the ACF and PACF plots of the time series data. What do these plots tell you about the order of the model? (2 marks)

3. Fit the data using several different ARMA models. Interpret the ACF and PACF plots for the residuals. Based on the ACF and PACF plots what ARMA model(s) are appropriate for the dataset? (3 marks)

4. Based on AIC, what model is most appropriate for the TS dataset? (1 mark)

5. What are the values of the AR and MA parameters?   What do they mean? (4 marks)

Total = 12 marks