**QUIZ Rules (Read carefully)**

1. PLEASE READ THE QUESTION!!!
2. You must do your assignment alone
3. NO late quiz will be accepted
4. Please show all the details of your solutions and interpret all results
5. Please upload **both “Rmarkdown” file and “html” file** into the quiz1 part at ODTUCLASS
6. **If you don’t submit either of these two files, you will lose a point**

**Question**

The “clay” data are about Quarterly production of clay bricks: million units. The “clay” data are quarterly data starting from 1965.

1. Plot the series, draw ACF and examine carefully the trend and seasonal phenomenon contained in the data. Interpret your results
2. Split data into train and test.

Train set consists of Quarterly production of clay bricks between 1965 and 1992

Test set consists of Quarterly production of clay bricks between 1992 and 1993 ( the last 8 observation)

1. If it needs any transformation, apply Box-Cox transformation. Interpret your results
2. If there is trend in data, remove the trend by detrending or differencing and evaluate the unit root tests you applied. Interpret your results
3. If there is seasonal unit root in data, remove the seasonal unit root and evaluate the unit root tests you applied. Interpret your results
4. Identify a proper ARMA, ARIMA or SARIMA model.
5. Find the best model and interpret the results