DATA 624 - Group 2 HW

# Dependencies

The following packages were used in R for completion of our homework.

#Forecasting: Principles and Practice Textbook  
library(fpp2)  
  
#Graphing  
library(ggplot2)

# Week 1 Assignment

## 2.1 (HA): Use the help function to explore what the series gold, woolyrnq and gas represent.

Per the help function, the gold series represents “daily morning gold prices in US dollars. 1 January 1985 – 31 March 1989”; the woolyrnq series represents “quarterly production of woollen yarn in Australia: tonnes. Mar 1965 – Sep 1994”; and, the gas series represents “Australian monthly gas production: 1956–1995.”

#help("gold")  
#help("woolyrnq")  
#help("gas")

### a. Use autoplot() to plot each of these in separate plots.

1. What is the frequency of each series? Hint: apply the frequency() function.
2. Use which.max() to spot the outlier in the gold series. Which observation was it?

## 2.3 (HA): Download some monthly Australian retail data from the book website. These represent retail sales in various categories for different Australian states, and are stored in a MS-Excel file.

1. You can read the data into R with the following script:

retaildata <- readxl::read\_excel("data/retail.xlsx", skip=1)

*The second argument (skip=1) is required because the Excel sheet has two header rows.*

1. Select one of the time series as follows (but replace the column name with your own chosen column):

myts <- ts(retaildata[,"A3349873A"], frequency=12, start=c(1982,4))

1. Explore your chosen retail time series using the following functions: autoplot(), ggseasonplot(), ggsubseriesplot(), gglagplot(), ggAcf().

#test