**Laboratory Exercises (Time Series Forecasting in R)**

Answer the following exercises with your partner. For each of the following, use R and include the codes as part of your solution. Upload a pdf file of your answers, solutions and R codes, indicating the names of the members who participated. Only one member will upload to Canvas a pdf file for each group. Consider the data set "Airline.csv".

1) Create a time series for volume from January 1950 to December 1957. Plot this time series. Use it to answer #2-6.
2) Obtain the simple moving average for n=2, then plot the resulting time series with the original. Also obtain plot and values of the 5-step ahead forecast. Obtain the accuracy measures of the forecast.
3) Obtain the weighted moving average (WMA) with weights c(0.2, 0.3, 0.5) and n=3. Obtain the plot and values of the 5-step ahead forecast. Obtain the accuracy measures of the forecast, then compare it with the result in #2.
4) Do double exponential smoothing, plot the series, then obtain the plot and values of the 5-step ahead forecast.
5) Decompose the series into its seasonal, trend, and random components using "decompose". Plot the graphs of these components.
6) Obtain the values of the 5-step ahead forecast of the series by decomposing the series into trend and seasonal components using "tslm".