Practical-7

Consider the monthly volume of commercial bank real estate loans (in billions of dollars) data set stored in a text file. Write the R program for the following:

(f) Import data into the R environment.
(g) Convert the data into a time series object.
(h) Plot the data to identify the dominant component.
(i) Check stationarity or non-stationarity using ACF/PACF plot.
(j) Check stationarity or non-stationarity using the Augmented Dickey-Fuller (ADF) test.
(k) If data is non-stationary, make it stationary using an appropriate operator.
(l) Based on the dominating component, select the suitable model to fit the data and finalize the order of the model using ACF/PACF plots with model selection criteria such as AIC.
(m) Fit the data using the selected model and estimate the parameters of the model.
(n) Check the goodness of fit of the model.

Practical-8

Consider the "AirPassengers" data from R library and write the R program for the following:

(f) Convert the data into a time series object.
(g) Plot the data to identify the dominant component.
(h) Decompose the data to observe the dominating components more clearly.
(i) Check stationarity or non-stationarity using ACF/PACF plot.
(j) Check stationarity or non-stationarity using the KPSS test.
(k) If data is non-stationary, make it stationary using an appropriate operator.
(l) Based on the dominating component, select the suitable technique to fit the data.
(m) Fit the data using the selected model and estimate the parameters of the model.
(n) Check the goodness of fit of the model.