**Case 2**

**Forecasting and Decomposition with R**

1. **Decomposition**

Given the Airline.csv dataset, apply decomposition on this dataset. The Airline.csv data consist of the monthly international airline passenger traffic from 1949-1958. Identify the components of the time series dataset and decompose it to generate rules for forecasting the traffic for 1959. Compute for the forecasts for 1959.

1. **Forecasting using R**

Given Chocolates.csv data set, prepare forecasting plots using the following methods (in R):

1. Simple moving average for the past 2 periods, 10 periods and 20 periods.
2. Exponential smoothing using α = 0.1, α = 0.2, and α=0.9. Use Holt-Winter’s method.
3. Double exponential smoothing using α = 0.2, β = 0.4. Use Holt-Winter’s method.
4. Apply decomposition using R for Chocolates.csv.

Which of the above stated forecasting tools is/are appropriate for the Chocolates dataset?

The data provided is the quarterly production of chocolates in metric tons in Australia from 1957 to 1994.

Additionally, prepare a forecast plan for the next set of period.