Learning outcomes: After completing this exercise, you should be able to understand and perform below tasks.

Time Series:

1. Understanding time series data and aggregating the data based on intervals
2. Decomposing the time series and analyzing the components
3. Adjusting for stationarity, trend and seasonality in the data
4. Applying moving averages methods, Holt-Winters, ARIMA and Auto-ARIMA models for forecasting

Steps:

a) Read the HDFC data

b) Consider the Close Price as Stock Price and aggregate the data at month level

c) Create a time series object and plot it

d) Decompose the time series and plot the components

e) Use averaging models for smoothing the data

f) Apply Holt-Wonter's model for forecasting for future periods

g) Study ACF, PACF plots to find auto and partial auto correlations

h) Apply ARIMA models

i) Applying Auto-ARIMA model and make forecast