


Time Series Assignment Part I

1. Consider some data from a real-time series with at least 120 observations (if **monthly data**), preferably with *seasonality*.

For example from

<https://www.kaggle.com/>

or any other data source.

2. Describe the corresponding theoretical background of the problem that you want to analyse. 
3. Divide the series into *approximately* two parts: 80% and 20%. Estimate the parameters of several possible models with the first group of observations (80%) and predict the next 20% observations.
4. Apply descriptive techniques on the series:
 - Smoothing techniques like Holt-Winter models.
 - Harmonic analysis.
 - Neural networks.
5. Check which is the best model in terms of predictions and *MSE*.

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| <p>NOTE: All programs have to be fully commented and explained. Any codes without explanations will assumed that be fully copied from <i>ChatGPT</i> or <i>CoPilot</i>.</p> |
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Date of delivery: 26th February .