Congratulations! You passed!
TO PASS 80% or higher

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GRADE
100%

Time Series

TOTAL POINTS 5

1. Why is stationarity important in time series modeling? **1 / 1 point**

- (•) Preservation of model stability
- ( ) It optimizes model performance
- ( ) Improves predictive power

Correct
A times series must be stationary in order to model it with itself (mean reversion) or with another time time series (co-integration).

2. Most time series contain one or more of the following components: trend, seasonal, cyclical, residual. **1 / 1 point**

- (•) True
- ( ) False

Correct
A time series can include any of three systematic components, level, trend and seasonality, and one non-systematic component, noise or residual variation.

- **Level**: The average value in the series.
- **Trend**: The increasing or decreasing value in the series.
- **Seasonality**: The repeating short-term cycle in the series.
- **Residual Noise**: The random variation in the series.

3. An Auto Regressive (AR) process involves finding which of the following? **1 / 1 point**

- (•) Time lag
- ( ) Spatial resolution
- ( ) Moving average
- ( ) Principle components

Correct
An AR(p) auto regressive process is one in which the current value is based on a preceding value, p lags before. In an AR(1) process, the current value of a process is a function of its value immediately prior.

4. Moving Average models involve finding which of the following? **1 / 1 point**

- (•) Error terms
- ( ) Time lag
- ( ) Correlation coefficients
- ( ) Principle components

Correct

Moving average MA models uses past forecast error terms in a regression-like model.

5. You have an ARIMA model with a parameter p=1. What does this say about the model? **1 / 1 point**

- (●) Each term in the model is correlated to one output prior.
- ( ) One error term is used to predict the output.
- ( ) It's stationary.
- ( ) It's not stationary.

Correct

An ARIMA(p,d,q)) is an auto regressive integrated moving average process in which the current output value is based on a preceding output value, p lags before. In an ARIMA(1,d,q) model the current value of a process is a function of its value one time period prior.