Quiz 02

Due Jan 11, 2019 at 23:59 **Points** 10 **Questions** 10
Available Jan 9, 2019 at 11:00 - Jan 11, 2019 at 23:59 3 days **Time Limit** 30 Minutes

Instructions

Quiz 02 covers the material in lectures 4 - 6 (pages 24 - 46 of the Course Notes)

This quiz is no longer available as the course has been concluded.

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	23 minutes	8 out of 10

Score for this quiz: **8** out of 10
Submitted Jan 10, 2019 at 14:50
This attempt took 23 minutes.

Question 1

1 / 1 pts

If we have a strong positive trend in our series, we would expect to see ...

Correct!

- (•) slow decay in the plot of the autocorrelation function
- ( ) no significant lags beyond lag 1
- ( ) Only 1 significant lag beyond lag 1
- ( ) oscillation in the plot of the autocorrelation function

Question 2

1 / 1 pts

If we have monthly data and we create a time series object and then the plot of the autocorrelation function of the series, ...

Correct!

- (•) lag 1.0 tells us about correlation 12 time periods apart
- ( ) lag 1.0 is unlikely to be significant
- ( ) lag 12.0 tells us about correlation 12 time periods apart
- ( ) lag 1.0 tells us about correlation 1 time period apart

Question 3

1 / 1 pts

The main use of the plot of the autocorrelation function when modelling a Time Series is to ...

- ( ) determine if the residuals are independent of one another
- ( ) determine if there is any autocorrelation pattern left in the residuals

Correct!

- (•) All other options are correct
- ( ) determine if there is any autocorrelation pattern left in the residual series

Question 4

1 / 1 pts

If we have a model of a Time Series with 500 observations and we see some weakly significant autocorrrelations in an acf plot of the residuals, we can simulate random values from a Normal distribution with n = 500, mean = 0 and standard deviation equal to the residual standard error from our model.

We can then see how many lags are significant in a plot of the autocorrelation function of our simulated values.

We can then compare it to the acf plot of our model's residuals.

If the number and size of the autocorrelations in our simulation are similar to the number and size of the autocorrelations in our model residuals we can assume our model is OK to perform valid statistical inference.

Correct!

- (•) True

False

Question 5

0 / 1 pts

Once we have performed a couple of simulations as described above in Question 4, we can assess an acf plot of a Residual Series from any Time Series to determine whether we have independent residuals .....

You Answered

only if the sample size for our model is exactly the same as used in our previous simulations

only when the data we are analysing is random data

only after repeating the simulation process for our new data and model

Correct Answer

by mentally comparing it to the previous simulations we ran

Question 6

1 / 1 pts

A White Noise series of residuals ...

can have some significant lags provided there are not too many

can have a positive mean

Correct!

has no correlation pattern in the series

can have some significant lags provided there is no decreasing pattern of lags in the acf

Question 7

1 / 1 pts

Fitting a lagged response variable as an additional explanatory variable in our model ...

Correct!

- (•) will often remove an autocorrelation pattern in our residuals provided the pattern in the acf plot shows exponential decay
- ( ) will only remove an autocorrelation pattern in a residual series if the sample size is large
- ( ) can only be used when the sample size is large
- ( ) will always remove an autocorrelation pattern in a residual series

Question 8

0 / 1 pts

The partial autocorrelation function ....

You Answered

- (•) excludes, or accounts for the effects of any intermediate autocorrelations

Correct Answer

- ( ) All other options are correct
- ( ) can be used to assess how many lags from an acf are independently significant
- ( ) will tend to show lag 1 as the only significant lag when the acf shows exponential decay

Question 9

1 / 1 pts

Transformations in Time Series ....

Correct!

- (•) All other options are correct

can be used to try and make the trend more linear and the seasonal component more constant through time

are often used to try and make the seasonal component more constant

are often used to try and make a series more linear

Question 10

1 / 1 pts

If we have an unusual observation in our Time Series the best option is usually to delete the unusual observation from the data and build a model with the unusual observation excluded.

True

Correct!

False

Quiz Score: **8** out of 10