Description: This function obtains a Random Number Generator (RNG) or collection of RNGs that replicate the required parameter(s) of a distribution for a time series of data. Consider the case of reproducing a time series data set of size 20 that uses an autoregressive (AR) model with phi = 0.8 and standard deviation equal to 1. When one checks the arima.sin() function's estimated parameters, it's possible that after a single trial or a few more, one won't find the precise parameters. This enables one to look for the ideal RNG setting for a simulation that will accurately duplicate the desired parameters.
arimasim

Parameterized Simulation

Description

Parameterized Simulation

Usage

arimasim(a, z, n, ar11, ma11, ar22, ma22, ar33, ma33, p, d, q, sd = sd, j1, k1, j2, k2, j3, k3, arr1, maa1, arr2, maa2, arr3, maa3)

Arguments

a first seed boundary
z last seed boundary
n number of samples
ar11 character to search for in third coefficient of autoregressive
ma11 character to search for in third coefficient of autoregressive
ar22 character to search for in third coefficient of autoregressive
arimasim

ma22 character to search for in third coefficient of autoregressive
ar33 character to search for in third coefficient of autoregressive
ma33 character to search for in third coefficient of autoregressive
p order of the autoregressive
d degree of difference
q degree of moving average
sd standard deviation of the series
j1 length of character to search for in first coefficient of autoregressive
k1 length of character to search for in third coefficient of autoregressive
j2 length of character to search for in second coefficient of autoregressive
k2 length of character to search for in third coefficient of autoregressive
j3 length of character to search for in third coefficient of autoregressive
k3 length of character to search for in third coefficient of autoregressive
arr1 character to search for in first coefficient of autoregressive
maa1 character to search for in third coefficient of autoregressive
arr2 character to search for in second coefficient of autoregressive
maa2 character to search for in third coefficient of autoregressive
arr3 character to search for in third coefficient of autoregressive
maa3 character to search for in third coefficient of autoregressive

Value

A data frame get printed to the console with its first column being the rank and the next few column could be the coefficients of AR or MA both with varying orders depending on the order and classes of ARIMA model being searched for. The last column of the data frame could be the intercept if any exist within the range of the search.

Functions

- arimasim(): arimasim helps to Search for right seeds for the right AR simulation with arima.sin() function using auto.arima() function
  Search for right seeds for the right ARIMA simulation with arima.sin() function using auto.arima() function
  This function obtains a Random Number Generator (RNG) or collection of RNGs that replicate the required parameter(s) of a distribution for a time series of data. Consider the case of reproducing a time series data set of size 20 that uses an autoregressive (AR) model with phi = 0.8 and standard deviation equal to 1. When one checks the arima.sin() function’s estimated parameters, it’s possible that after a single trial or a few more, one won’t find the precise parameters. This enables one to look for the ideal RNG setting for a simulation that will accurately duplicate the desired parameters.

Examples

arimasim(a= 289805,z= 289806,n= 10,p= 1,d= 0,q= 0,ar1= 0.8,sd = 1,j1= 4,arr1= "0.80")
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