NDK_DIFF

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- C/C++
- .Net

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int __stdcall NDK_DIFF(double * X,
   size_t   N,
   size_t   S,
   size_t   D
)

Returns an array of cells for the differenced time series (i.e. (1-L^S)^D).

Returns

status code of the operation

Return values

NDK_SUCCESS Operation successful
NDK_FAILED   Operation unsuccessful. See **Macros** for full list.

Parameters

[in,out] **X** is the univariate time series data (a one dimensional array).
[in]   **N** is the number of observations in X.
[in]   **S** is the lag order (e.g. k=0 (no lag), k=1 (1st lag), etc.).
[in]   **D** is the number of repeated differencing (e.g. d=0 (none), d=1 (difference once), 2= (difference twice), etc.).

Remarks

1. The time series are homogeneous or equally spaced.
2. The two time series have an identical number of observations and time order, or the second series contains a single value.
3. In the case where the two time series are identically sized, the second series is subtracted from the first point-by-point: $$ \left[z_t\right] = \left[x_t\right] - \left[y_t\right] $$ Where:
   - $\left[z_t\right]$ is the difference time series.
   - $\left[x_t\right]$ is the first time series.
   - $\left[y_t\right]$ is the second time series.
4. In the case where the second time series is passed as a single value (α), this constant is subtracted from all points in the first time series: $$ \left[z_t\right] = \left[x_t\right] - \left[\alpha\right] $$ Where:
   - $\left[z_t\right]$ is the difference time series.
   - $\left[x_t\right]$ is the first time series.
   - α is a constant value.

5. The returned array has the same size and time order as the first input time series.

Requirements

Header	SFSDK.H
Library	SFSDK.LIB
DLL	SFSDK.DLL

Examples

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int NDK_DIFF(double[] data,
           UIntPtr nSize,
           UIntPtr nLag,
           UIntPtr nDifference
)

Namespace: NumXLAPI
Class: SFSDK
Scope: Public
Lifetime: Static

Returns an array of cells for the differenced time series (i.e. $(1-L^S)^D$).

Returns

status code of the operation

Return values

NDK_SUCCESS Operation successful
NDK_FAILED   Operation unsuccessful. See **Macros** for full list.

Parameters

[in,out] **data**   is the univariate time series data (a one dimensional array).
[in]   **nSize**   is the number of observations in data.
[in]   **nLag**   is the lag order (e.g. k=0 (no lag), k=1 (1st lag), etc.).
[in]   **nDifference** is the number of repeated differencing (e.g. d=0 (none), d=1 (difference once), 2=(difference twice), etc.).

Remarks

1. The time series are homogeneous or equally spaced.
2. The two time series have an identical number of observations and time order, or the second

series contains a single value.

3. In the case where the two time series are identically sized, the second series is subtracted from the first point-by-point: $$ \left[z_t\right] = \left[x_t\right] - \left[y_t\right] $$ Where:
   - $\left[z_t\right]$ is the difference time series.
   - $\left[x_t\right]$ is the first time series.
   - $\left[y_t\right]$ is the second time series.
4. In the case where the second time series is passed as a single value (α), this constant is subtracted from all points in the first time series: $$ \left[z_t\right] = \left[x_t\right] - \left[\alpha\right] $$ Where:
   - $\left[z_t\right]$ is the difference time series.
   - $\left[x_t\right]$ is the first time series.
   - α is a constant value.
5. The returned array has the same size and time order as the first input time series.

Exceptions

Exception Type	Condition
None	N/A

Requirements

Namespace	NumXLAPI
Class	SFSDK
Scope	Public
Lifetime	Static
Package	NumXLAPI.DLL

Examples

References

Hamilton, J .D.; Time Series Analysis , Princeton University Press (1994), ISBN 0-691-04289-6

Tsay, Ruey S.; Analysis of Financial Time Series John Wiley & SONS. (2005), ISBN 0-471-690740

See Also

[template("related")]