

NDK_SAD

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- C/C++
- .Net

```
int __stdcall NDK_SAD(double * X,  
                    double * Y,  
                    size_t  N,  
                    double * retVal  
                    )
```

Calculates the sum of absolute errors (SAE) between the forecast and the eventual outcomes.

Returns

status code of the operation

Return values

NDK_SUCCESS Operation successful

NDK_FAILED Operation unsuccessful. See [Macros](#) for full list.

Parameters

- [in] **X** is the original (eventual outcomes) time series sample data (a one dimensional array).
- [in] **Y** is the forecast time series data (a one dimensional array).
- [in] **N** is the number of observations in X.
- [out] **retVal** is the calculated value of this function.

Remarks

1. The time series is homogeneous or equally spaced.
2. The two time series must be identical in size.
3. A missing value (say (x_k) or (\hat{x}_k)) in either time series will exclude the data point (x_k, \hat{x}_k) from the SSE.
4. The sum of absolute errors (SAE) or deviations (SAD), is defined as follows:

$$\mathrm{SAE} = \mathrm{SAD} = \sum_{i=1}^N \left| x_i - \hat{x}_i \right|,$$

where:

- $(\{x_i\})$ is the actual observations time series.
- $(\{\hat{x}_i\})$ is the estimated or forecasted time series.

Requirements

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

Examples

```
int NDK_SAD(double[] pData1,
            double[] pData2,
            UIntPtr nSize,
            ref double retVal
            )
```

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

Calculates the sum of absolute errors (SAE) between the forecast and the eventual outcomes.

Return Value

a value from [NDK_RETCODE](#) enumeration for the status of the call.

NDK_SUCCESS operation successful
 Error Error Code

Parameters

- [in] **pData1** is the original (eventual outcomes) time series sample data (a one dimensional array).
- [in] **pData2** is the forecast time series data (a one dimensional array).
- [in] **nSize** is the number of observations in pData1.
- [out] **retVal** is the calculated value of this function.

Remarks

1. The time series is homogeneous or equally spaced.
2. The two time series must be identical in size.
3. A missing value (say $\backslash(x_k)$ or $\backslash(\hat{x}_k)$) in either time series will exclude the data point $\backslash((x_k, \hat{x}_k))$ from the SSE.
4. The sum of absolute errors (SAE) or deviations (SAD), is defined as follows:

$$\backslash\mathrm{SAE}\backslash=\backslash\mathrm{SAD}\backslash=\backslash\sum_{i=1}^N \backslash\left | x_i-\hat{x}_i \backslash\right |$$
 where:
 - $\backslash(\backslash{x}_i\backslash)$ is the actual observations time series.

- \hat{x}_i is the estimated or forecasted time series.

Exceptions

Exception Type	Condition
None	N/A

Requirements

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

Examples

References

Hull, John C.; [Options, Futures and Other Derivatives](#) *Financial Times*/ Prentice Hall (2011), ISBN 978-0132777421

See Also

[template("related")]
