

# NDK\_KERNEL\_DENSITY\_ESTIMATE

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- [C/C++](#)
- [.Net](#)

```
int __stdcall NDK_KERNEL_DENSITY_ESTIMATE(double * pData,
                                          size_t  nSize,
                                          double  targetVal,
                                          double  bandwidth,
                                          WORD    argKernelFunc,
                                          double * retVal
                                          )
```

Returns the upper/lower limit or center value of the k-th histogram bin.

## Returns

status code of the operation

## Return values

**NDK\_SUCCESS** Operation successful

**NDK\_FAILED** Operation unsuccessful. See [SFMacros.h](#) for more details.

## See Also

[NDK\\_HISTOGRAM\(\)](#)

## Parameters

- [in] **pData** is the input data series (one/two dimensional array).
- [in] **nSize** is the number of elements in pData.
- [in] **targetVal** is the target value to compute the underlying cdf for.
- [in] **bandwidth** is the smoothing parameter (bandwidth) of the kernel density estimator. If missing, the KDE function calculates an optimal value.
- [in] **argKernelFunc** is a switch to select the kernel function: 1=Gaussian (default), 2=Uniform 3=Triangular 4=Biweight (Quatric) 5=Triweight 6=Epanechnikov
- [out] **retVal** is the computed value.

```
int NDK_KERNEL_DENSITY_ESTIMATE(double[]  pData,
                                UIntPtr   nSize,
                                double    targetVal,
                                double    bandwidth,
                                short     argKernelFunc,
                                ref double retVal
                                )
```

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

Returns the upper/lower limit or center value of the k-th histogram bin.

## Return Value

a value from [NDK\\_RETCODE](#) enumeration for the status of the call.

**NDK\_SUCCESS** operation successful

Error                      Error Code

## Parameters

[in] **pData**                      is the input data series (one/two dimensional array).

[in] **nSize**                        is the number of elements in pData.

[in] **targetVal**                    is the target value to compute the underlying cdf for.

[in] **bandwidth**                    is the smoothing parameter (bandwidth) of the kernel density estimator. If missing, the KDE function calculates an optimal value.

[in] **argKernelFunc** is a switch to select the kernel function: 1=Gaussian (default), 2=Uniform  
3=Triangular 4=Biweight (Quatric) 5=Triweight 6=Epanechnikov

[out] **retVal**                      is the computed value.

## Exceptions

Exception Type	Condition
None	N/A

## Requirements

<b>Namespace</b>	NumXLAPI
<b>Class</b>	SFSDK
<b>Scope</b>	Public
<b>Lifetime</b>	Static
<b>Package</b>	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
  - \* D. S.G. Pollock; [Handbook of Time Series Analysis, Signal Processing, and Dynamics](#); Academic Press; Har/Cdr edition(Nov 17, 1999), ISBN: 125609906
  - \* Box, Jenkins and Reisel; [Time Series Analysis: Forecasting and Control](#); John Wiley & SONS.; 4th edition(Jun 30, 2008), ISBN: 470272848
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## See Also

[template("related")]