histograma

Calculates an histogram for the data in an input vector.

Syntax

HISTOGRAMA,y[,nbins=nbins,binsize=binsize,x=x,cum=cum,ind=ind,forcex=forcex]

Return Values

An array (long integer) with the number of values in each bin.

Arguments

y - (float array) Input data vector

Keywords

- nbins (integer) – number of bins to be used (default is 10). This is an input. This value is ignored if binsize is provided.
- binsize (float) – size of the bin to use (otherwise chosen to span the range of y with 10 elements). This is an input.
- x (float array) - vector with the centers of the intervals used to calculate the histogram. An element of y is included in bin i when

  $$x(i) - binsize/2. <= y(i) < x(i) + binsize/2.$$

  This array is internally created, unless forcex is set, in which case the input array is adopted. Thus, can be an input or an output.
- cum (switch) – when switched on, a cumulative distrib. is returned
- ind (integer array) – an optional array with the indices of the elements in the input array in each bin (padded with -1s). This is an output.
- forcex (switch) – set this keyword to impose an input x array, otherwise x is internally created and replaces the input one.

Discussion

This is not as fast as the intrinsic but is custom made for the things I needed. There is an excellent alternative in the Coyote library.

Version History

Carlos Allende Prieto, UT, fist written Sep 1999

UT, April 2005, changed to use long integers

A&M, October 2010, added cum keyword

Radazul, June 2011, added nbins and ind keywords, changed nbins default and allowed x to be an input even if it doesn't contain all elements of y, as long as x is equidistant, when setting xforce.