AHELP for CIAO 3.4   **grpNumBins**   Context: group

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Synopsis

Group an array into a set of equal–width groups (by number of groups).

Syntax

```
grpNumBins( Integer_Type numChans, Integer_Type numGroups )
grpNumBins( Integer_Type numChans, Integer_Type numGroups, Array_Type
tabStops )

Returns: ( Array_Type grouping, Array_Type quality )
```

Description

This function returns the grouping and quality arrays that represent an array of numChans elements grouped into numGroups groups. The optional parameter tabStops is an array which lists those elements that should be ignored.

This function provides the same functionality as the NUM_BINS option of dmgroup. The grpBinWidth() function allows you to fix the width of the group rather than the number of groups.

Example 1

```
chips> (g,q) = grpNumBins( 10, 2 )
```

This example calculates the grouping and quality arrays that represent an array of 10 elements grouped into 2 groups.

Example 2

```
chips> x = [0.5:6.0:0.05]
chips> y = 3 + 30 * exp( - (x-2.0)^2 / 0.1 )
chips> (g,q) = grpNumBins( length(y), 10 )
chips> ysum = grpGetGroupSum( y, g )
chips> nchan = grpGetChansPerGroup( g )
```

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```
chips> i = where( g == 1 )
chips> yavg = ysum[i] / nchan[i]
chips> curve( x, y )
chips> simpleline
chips> curve( x[i], yavg )
chips> symbol square
chips> symbol red
```

Here we take the function

```
y = 3 + 30 * exp( -(x-2)^2 / 0.1 )
```

and group it so that there are 10 groups. The plot shows the original data (the solid line and the crosses) and the grouped data (as the red squares); the latter has been normalised by the width of each group and is displayed at the left−edge of each group.

Bugs

See the bugs page for the group library on the CIAO website for an up−to−date listing of known bugs.

See Also

group

      grpadaptive, grpadaptivesnr, grpbin, grpbinfile, grpbinwidth, grpgetchanspergroup, grpgetgroupsum, grpgetgrpnum, grpmaxslope, grpminslope, grpnumbins, grpnumcounts, grpsnr

modules

      group