

To list the actual waves used in a graph, or to distinguish two or more instances of the same named wave in a graph, use **TraceNameList**. This function can be used in conjunction with **TraceNameToWaveRef**, and **XWaveRefFromTrace**.

Use **ContourNameList** to list contour plots in a given window and **ContourNameToWaveRef** to access the waves used to generate the contour plot.

To list the contour traces (that is, the contour lines themselves) use **TraceNameList** with the appropriate option.

Use **ImageNameList** to list images in a given window and **ImageNameToWaveRef** to access the waves used to generate the images.

Processing Lists of Waves

Contrary to what you might expect, you can *not* use the output of WaveList directly with operations that have a list of waves as their parameters. See **Processing Lists of Waves** on page IV-198 for ways of dealing with this.

Examples

```
// Returns a list of all waves in the current data folder.  
WaveList("*, "; "")  
  
// Returns a list of all waves in the current data folder and displayed in the top table or graph.  
WaveList("*, "; "WIN:")  
  
// Returns a list of waves in the current data folder whose names  
// end in ".bkg" and which are displayed in Graph0 as 1D traces.  
WaveList("*_bkg", ";", "WIN:Graph0")  
  
// Returns a list of waves in the current data folder whose names do not  
// end in "X" and which are displayed in Graph0 as 1D traces or as one  
// of the X, Y, and Z waves of an AppendXYZContour plot.  
WaveList("!*X", ";", "WIN:Graph0,DIMS:1")  
  
// Returns a list of waves in the root:Packages:MyPackage data folder  
WaveList("*, "; "", root:Packages:MyPackage)
```

See Also

[Chapter II-6, Multidimensional Waves.](#)

[Execute](#), [ContourNameList](#), [ImageNameList](#), [TraceNameList](#), and [WaveRefIndexed](#).

WaveMax

WaveMax (waveName [, x1, x2])

The WaveMax function returns the maximum value in the wave for points between $x=x1$ to $x=x2$, inclusive.

Details

If $x1$ and $x2$ are not specified, they default to -inf and +inf, respectively.

The X scaling of the wave is used only to locate the points nearest to $x=x1$ and $x=x2$. To use point indexing, replace $x1$ with `pnt2x(waveName, pointNumber1)`, and a similar expression for $x2$.

If the points nearest to $x1$ or $x2$ are not within the point range of 0 to `numpnts(waveName)-1`, WaveMax limits them to the nearest of point 0 or point `numpnts(waveName)-1`.

NaN values in the wave are ignored.

See Also

[WaveMin](#), [WaveMinAndMax](#), [WaveStats](#)

WaveMeanStdv

WaveMeanStdv srcWave binSizeWave

The WaveMeanStdv operation calculates the standard deviation of the means for the specified bin distribution saving the result in the wave `W_MeanStdv`.

For each entry in `binSizeWave`, `srcWave` is divided into the specified number of bins. Values in each bin are averaged and then the mean and standard deviation of the averages (among all bins) are calculated. The value of the standard deviation of the bin averages divided by the mean is then stored in `W_MeanStdv` corresponding to the bin size entry in `binSizeWave`.

All entries in `binSizeWave` must be positive integers.