Wave Data Types

As a replacement for the above number type flags you can use /Y=*numType* to set the number type as an integer code. See the **WaveType** function for code values. Do not use /Y in combination with other type flags. This technique cannot be used to change the number type without changing the real/complex setting.

Details

The waves must already exist. New points in waves that are extended are zeroed.

In general, Redimension does not move data from one dimension to another. For instance, if you have a 6x6 matrix wave, and you would like it to be 3x12, the rows have been shortened and the data for the last three rows is lost.

As a special case, if converting to or from a 1D wave, Redimension will leave the data in place while changing the dimensionality of the wave. For example, you can use Redimension to convert a 36-element 1D wave into a 6x6 matrix in which the elements in the first column (column 0) are the first 6 elements of the 1D wave, the elements of the second column are the next 6, etc. When redimensioning from a 1D wave, columns are filled first, then layers, followed by chunks.

Examples

Reshaping a 1D wave having 4 elements to make a 2x2 matrix:

```
Make/N=4 vector=x
Redimension/N=(2,2) vector
```

See Also

Make, **DeletePoints**, **InsertPoints**, **Concatenate**, **SplitWave**

Remez

Remez [/N=*num* /Q[=*iter*]] *frWave*, *wtWave*, *gridWave*, *coefsWave*

The Remez operation calculates the coefficients for digital filters given a desired frequency response as input.

Remez is primarily used for the MPR filter feature of the Igor Filter Design Laboratory (IFDL) package.

Parameters

frWave contains the desired response.

wtWave contains the weight function array. For a differentiator, the weight function is inversely proportional to frequency.

gridWave contains the frequencies corresponding to each point in *frWave* and *wtWave*. Its values range from 0 to 0.5 with gaps where the band edges occur.

coefsWave receives the resulting coefficients. Its length defines the number of coefficients (nfilt in the IEEE program referenced below).

Flags

/N=*mode*	*mode*=0: Selects multiple passband/stopband filter (default).
	mode=1: Selects differentiator or Hilbert transform filter.
/Q[=*iter*]	Determines if execution stops if the filter doesn't converge.
	If you omit /Q, execution stops if the filter doesn't converge.
	If you specify /Q or /Q=0, execution continues if the filter doesn't converge, regardless of the number of iterations.
	For *iter*>=1, execution stops if the filter fails to converge in *iter* iterations or less. If the filter does converge after *iter* iterations, execution does stop.
	Use /Q=3 to stop execution for serious errors (after only 1, 2, or 3 iterations) but not for minor errors (after 4 or more iterations).

Details

Remez returns symmetrical coefficients suitable for use with **FilterFIR** in *coefsWave*.