Flags

/A — Alphanumeric. When *sortKeyWaves* includes text waves, the normal sorting places “wave1” and “wave10” before “wave9”. Use /A to sort the number portion numerically, so that “wave9” is sorted before “wave10”.

/C — Case-sensitive. When *sortKeyWaves* includes text waves, the ordering is case-insensitive unless you use the /C flag which makes it case-sensitive.

/LOC — Performs a locale-aware sort.

When *sortKeyWaves* includes text waves, the text encoding of the text waves’ data is taken into account and sorting is done according to the sorting conventions of the current system locale. This flag is ignored if the text waves’ data encoding is unknown, binary, Symbol, or Dingbats. This flag cannot be used with the /A flag. See Details for more information.

The /LOC flag was added in Igor Pro 7.00.

/R — Reverse the index so that ordering is from largest to smallest.

Details

MakeIndex is used in preparation for a subsequent **IndexSort** operation. If /R is used the ordering is from largest to smallest. Otherwise it is from smallest to largest.

When the /LOC flag is used, the bytes stored in the text wave at each point are converted into a Unicode string using the text encoding of the text wave data. These Unicode strings are then compared using OS specific text comparison routines based on the locale set in the operating system. This means that the order of sorted items may differ when the same sort is done with the same data under different operating systems or different system locales.

When /LOC is omitted the sort is done on the raw text without regard to the waves’ text encoding.

See Also

Sorting on page III-132, **MakeIndex and IndexSort** on page III-134, **Sort**, **IndexSort**

MandelbrotPoint

MandelbrotPoint(*x*, *y*, *maxIterations*, *algorithm*)

The MandelbrotPoint function returns a value between 0 and *maxIterations* based on the Mandelbrot set complex quadratic recurrence relation z[n] = z[n-1]^2 + c where *x* is the real component of c, *y* is the imaginary component of c and z[0] = 0.

The returned value is the number of iterations the equation was evaluated before |z[n]| > 2 (the escape radius of the Mandelbrot set), or maxIterations, whichever is less.

Parameters

algorithm=0 — The "Escape Time" algorithm returns the integer n which is the number of iterations until |z[n]| > 2.

algorithm=1 — The "Renormalized Iteration Count Algorithm" algorithm returns a floating point value which is a refinement of the number of iterations n by adding the quantity:

```
5 - ln( ln( |z[n+4]| ) ) / ln(2)
```

(which requires four more iterations of the recurrence relation). The returned value is clipped to maxIterations.

See Also

The “MultiThread Mandelbrot Demo” experiment.

References

http://en.wikipedia.org/wiki/Mandelbrot_set

http://linas.org/art-gallery/escape/escape.html