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Special Math Functions from the NAG Library

Author:	OriginLab Corporation	Date Added:	4/25/2003
Downloads:	1306	Last Update:	4/12/2005
Total Ratings:	6	File Size:	12657 Bytes
Average Rating:	★★★★☆	File Name:	NAGSpecial...ns.c
Created Using:	Origin 7.5	File Version:	1.0
Working Versions:	7.5		
License:	Free		

Summary:

This Origin C file contains 42 special math functions from the NAG Special Functions Chapter, and makes them accessible from the Origin interface.

Description:

NOTE: If you have version 7.5, you do not need to download this file. Version 7.5 already has a file called LT_Math.c in 7.5 which already contains these functions.

Origin 7 includes a wide selection of numerical computational routines from the Numerical Algorithms Group (NAG) libraries. One of the NAG library chapters included with version 7 is the Special Functions chapter, which contains functions such as `bessel_y0`, `fresnel_s` etc. These numerical functions are accessible with the Origin C programming environment.

This Origin C file makes these special NAG functions accessible from the Origin interface.

Once this OC file is compiled, you can use these special functions from the script window by typing commands such as:
`fresnel_s(10)=`
 or
`data1_b = fresnel_s(data1_a)`

The functions will also be accessible in the Set Columns dialog and in other places such as the function plot dialog. Note however that these functions will not be listed in the function drop-down lists in these dialogs. You will need to know the function name and syntax.

There are 42 math functions in this file. Once the file is compiled, to see what functions are available, type the following in the script window:
`list_nag_sf`

Note that not all the functions from the Special Functions chapter are included here. Those that take complex numbers and arrays as arguments are left out. Also, some of these functions, such as `erf()`, will over-ride the functions already available in LabTalk.

When calling these functions, if there is an error in the computation, a missing value is returned. By default, no error messages are generated. You can turn on error message reporting to the script window by typing the following in the script window:

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