
Subject: Specify the degree of accuracy of a floating point number

Posted by [loknath](#) on Thu, 22 Feb 2007 04:48:10 GMT

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Hi

Is there a way to convert a single precision or double precision floating point number to an accuracy of specified decimal places? In other words, if I want to write 0.268954 or 233.256 to an accuracy of 2 decimal places, i.e. 0.27 and 233.26, is there a way to do it?

Thanks

Subject: Re: Specify the degree of accuracy of a floating point number

Posted by [David Fanning](#) on Sat, 24 Feb 2007 15:12:37 GMT

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Kenneth Bowman writes:

- > This is a round-off error issue. The function works by multiplying the
- > input by a factor, rounding to a LONG, and then dividing by the same factor
- > to convert back to a floating-point type.
- >
- > When you are trying to preserve a lot of precision (digits), you get round-off
- > issues with the LONG. This can be avoided (in most cases), by rounding to
- > a LONG64.

Ah, thanks for this. I was using the L64 keyword for ROUND in NUMBER_FORMATTER, but I was doing some of the other math with FLOAT and LONG. By changing these to DOUBLE and LONG64 I've managed to make NUMBER_FORMATTER work properly with all the perverse cases I've tried.

I've put an updated version here:

http://www.dfanning.com/programs/number_formatter.pro

Cheers,

David

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Coyote's Guide to IDL Programming: <http://www.dfanning.com/>

Sepore ma de ni thui. ("Perhaps thou speakest truth.")
