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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](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.")

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