Subject: Re: DOUBLE precision no precise??
Posted by R.Bauer on Tue, 05 Mar 2002 14:07:37 GMT
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James Tappin wrote:
>
> David Williams wrote:
>
>>
>> I've always had heaps of help from the inhabitants of this newsgroup --
>> for which I am eternally grateful -- despite my often stupid questions.
>> So, when a mate of mine came across this `quirk' yesterday, and I wasn't
>> sure how to help him out, I thought I'd ask this group.
>>
>> He has an array of numbers that he wants to apply a user-defined
>> function to, but we're both a little disturbed by the fact that if you
>> do the calculations with a pocket calculator, you get different numbers
>> than if you perform the same calculation in IDL.
>>
>> To try and find where the problem is, we tried the following lines...
>>
>> IDL> a = DOUBLE(42766.080001)
>> IDL> print,a,FORMAT='(F24.17)'
>>
>> 42766.07812500000000000
>>
>> As you see, the number we get out isn't the same as the number we
>> entered. I'm guessing it's to do with the way IDL stores numbers in
>> memory, but my understanding of low-level computational processes isn't
>> great.
>>
>> Can anybody help me understand what's going on, and/or if there's a way
>> around? I'd really appreciate whatever help is on offer, so thanks in
>> advance.
>
> The problem is that 42766.080001 is a single precision constant, so what's
> happening is that you are storing the single-precision approximation to
> 42766.080001 in some scratch location, then converting that to double.
>
> What you actually want is:
> a=42766.080001D0
>
> --
> +----------------------+-----------------------------+-- -------+
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> +---+-- -------+

My vote to this answer!

Reimar

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a IDL library at ForschungsZentrum Juelich
http://www.fz-juelich.de/icg/icg1/idl_icglib/idl_lib_intro.h tml
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