Subject: Re: strange behaviour of bytscl by large arrays
Posted by chris_torrence@NOSPAM on Mon, 23 Apr 2012 20:22:08 GMT
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On Monday, April 23, 2012 10:14:21 AM UTC-6, fawltyl...@gmail.com wrote:
>
> I think IDL's FINDGEN() implementation is wrong: it uses a float counter instead of an integer one. The following test shows the difference:
>
> pro test
> cpu, tpool_nthreads=1
> n=10l^8
> nn=n-1
> a1=findgen(n) ; real FINDGEN()
> a2=fltarr(n)
> count=0.0
> for j=0l, nn do a2[j]=count++ ; IDL's implementation
> a3=fltarr(n)
> count=0ll
> for j=0l, nn do a3[j]=count++ ; better implementation
> print, a1[nn], a2[nn], a3[nn], format='(3F15.3)'
> end
>
> (Multithreading must be disabled because the starting values for the threads are calculated as an integer. So the result of FINDGEN() depends on the number of your CPU cores, too :-)
>
> regards,
> Lajos

Well, wrong is perhaps too strong of a word. The real word is "fast". I just did a test where I changed the internal implementation of FINDGEN to use an integer counter. The "float" counter is 4 times faster than using an integer counter and converting it to floats.

However, perhaps we could look at the size of the input array, and switch to using the slower integer counter if it was absolutely necessary. I'll give it a thought.

Thanks for reporting this!

Cheers,
Chris
Exelis VIS