Subject: Precision Problem
Posted by DMac on Mon, 24 Jul 2006 16:51:40 GMT
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Hello All,
Using IDL version 6.2 on a Windows XP machine I am reading in a set of
coordinates from a binary file (it is LiDAR data stored in LAS Version
1.0 format) stored in UTM NAD83 Zone 11 and these points are stored as
4 byte long integers in the binary file . The coordinates are stored
in the binary file with an offset such that they need to be divided by
100 to obtain the actual coordinates. The binary file is read into a
heap variable (Data below). The X and Y coordinates are than written
from the heap variable into a double precision array as follows:

        x = dblarr(Num_pts)
        x = TEMPORARY(data.x*1.000e-002)

        y = dblarr(Num_pts)
        y = TEMPORARY(data.y*1.000e-002)

Eventually these points are output to an ESRI shapefile. My problem is
that the y coordinates are rounded to the nearest integer value in the
shapefile. The X coordinates are fine. The X coordinates are 6 digits
to the left of the decimal place while the Y coordinates are 7 digits
to the left of the decimal place

Can anyone shed any light on what is going on here or what I might be
doing wrong?

Thanks.

Derek M.

Subject: Re: Precision Problem
Posted by Mark Hadfield on Mon, 24 Jul 2006 22:10:02 GMT
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DMac wrote:
> Thanks a bunch guys. That was the problem i.e. I should use 1.000d-002
> rather than the single precision literal 1.000e-002.

By the way, you can save yourself some valuable bytes and keystrokes by
writing those as 1d-2 and 1e-2.

--
Mark Hadfield   "Kei puwaha te tai nei, Hoea tahi tatou"
m.hadfield@niwa.co.nz
National Institute for Water and Atmospheric Research (NIWA)

Subject: Re: precision problem
Posted by David Fanning on Tue, 18 Aug 2009 12:58:55 GMT

skymaxwell@gmail.com writes:

> I have problem with precision.
> I typing
>
> IDL> b=13.37943889D
>
> and then i typing
>
> IDL> help,b
> B   DOUBLE   =   13.379439
>
> how get my 13.37943889 for calculus ?
> If IDL rounding value, i've got worst results
> Even for test example
>
> How avoid this problem ?

More reading, naturally.

    http://www.dfanning.com/math_tips/sky_is_falling.html
    http://www.dfanning.com/math_tips/double.html
    http://www.dfanning.com/misc_tips/dbl_to_str.html

Cheers,

David

--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.dfanning.com/
Sepore ma de ni thui. ("Perhaps thou speakest truth.")