Subject: Re: Row major / column major
Posted by David Fanning on Thu, 31 Jan 2013 23:53:20 GMT
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markjamie@gmail.com writes:

> I can hear you all sigh already.... I know... We've all been here before... but after all my reading I'm still utterly confused.
>
> I need to loop over the large dimension of a 3 x very large array,let's say 3 x 1E9. Sadly, given the operation I'm performing, there's no easy way to get round the loop using histogram etc.
>
> To improve the loop efficiency should the array be defined as:
>
> Myarray = intarr(3,1E9)
>
> Or
>
> Myarray = intarr(1E9,3)
>
> Does it matter at all? Have I got totally the wrong idea with this?

It matters. A LOT!

You have GOT to make sure your loop matches the order in which adjacent values are laid out in memory (which is row order). Transpose your array to make it a (1e9,3) array and loop over the three rows, handling all the values in the columns as you go. Outer loop: rows. Inner loop: columns.

Cheers,

David

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Coyote's Guide to IDL Programming: http://www.idlcoyote.com/
Sepore ma de ni thue. ("Perhaps thou speakest truth.")