Subject: Re: Reversing a multi-dimensional array
Posted by David Fanning on Thu, 03 Jul 2003 23:59:59 GMT
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Andy Loughe (remove OMITs) writes:

> I have a 4-dimensional array, but it could someday grow to become
> 6 or 7 dimensions. What I would like to do is reverse the entire
> array, so that if it is now: a(i,j,k,l) it becomes a(l,k,j,i).
>
> What is the most efficient method for accomplishing this in IDL?

A histogram, of course! But, uh, I don't have time
to work out the details. I'm off on a backpacking
holiday. :-)

Cheers,

David

--
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Coyote's Guide to IDL Programming: http://www.dfanning.com/
Toll-Free IDL Book Orders: 1-888-461-0155

Subject: Re: Reversing a multi-dimensional array
Posted by Craig Markwardt on Fri, 04 Jul 2003 00:06:16 GMT
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"Andy Loughe (remove OMITs)" <Andrew.LoughheOMIT@noaaOMIT.govOMIT> writes:
> Hello,
>
> I have a 4-dimensional array, but it could someday grow to become
> 6 or 7 dimensions. What I would like to do is reverse the entire
> array, so that if it is now: a(i,j,k,l) it becomes a(l,k,j,i).
>
> What is the most efficient method for accomplishing this in IDL?

Greetings--

I think you don't actually want to reverse the array, but rather
change the order of the dimensions. This is exactly what TRANSPOSE
will do for you with its mysterious optional permutation vector
parameter. Explaining it is much harder than showing how you would
use it:

aprime = transpose(a, [3,2,1,0])

(which is actually the default). Unfortunately this is a case where
RSI used 0-based dimension numbering instead of 1-based (as is used in
TOTAL, MIN etc).

Craig

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Craig B. Markwardt, Ph.D. EMAIL: craigmnet@cow.physics.wisc.edu
Astrophysics, IDL, Finance, Derivatives | Remove "net" for better response
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Subject: Re: Reversing a multi-dimensional array
Posted by Dick Jackson on Mon, 07 Jul 2003 16:30:46 GMT
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Hi Andy,

"Andy Loughe (remove OMITs)" <Andrew.LoughеOMIT@noaaOMIT.govOMIT>
wrote in message news:3F04BF29.7030406@noaaOMIT.govOMIT...
> Hello,
>
> I have a 4-dimensional array, but it could someday grow to become
> 6 or 7 dimensions. What I would like to do is reverse the entire
> array, so that if it is now: a(i,j,k,l) it becomes a(l,k,j,i).
>
> What is the most efficient method for accomplishing this in IDL?

While I wouldn't call this a reversal of the array (rather, a
transposition reversing the dimensions of the array), I think what
you're looking for is:

a = Transpose(a)

The reversal of dimensions is the default behaviour of Transpose,
equivalent to:

a = Transpose(a, [3, 2, 1, 0])

If you needed some other ordering, you would give a different ordering
of values in the array.

Cheers,

--
-Dick

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