Subject: Instances of structure array with varying no. of elements
Posted by midhunjoyp on Tue, 28 Jan 2014 15:47:40 GMT
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Hi all,

I have an array of structure arrays of the following simplified form :

results = REPLICATE({domain:REPLICATE({frame :fltarr(1), particles : fltarr(5,6000)}, 10)} , 500)

ie, 'domain' is initialized as a struct array with 10 elements(instances),
'results' is initialized as an array of 'domain' arrays with 500 instances

However during calculations, I would like to change the number of instances of 'domain' array in each instance of the 'results' array

eg: results[0] should contain only 5 instances of 'domain' array
results[1] should contain 7 instances of 'domain' array etc...

I tried doing the following for it :
results[0].domain = results[0].domain[0:4]

But, with:
print, n_elements(results[0].domain) : Returns value 10, which indicates that the size remains unchanged.

Is there any method for doing this operation ?

Best,
Midhun

Subject: Re: Instances of structure array with varying no. of elements
Posted by Matthew Argall on Tue, 28 Jan 2014 16:10:13 GMT
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> I tried doing the following for it :
>
> results[0].domain = results[0].domain[0:4]

Structures tags have fixed sizes and types. Since results[0].domain is part of a structure and starts as a 10-element array, it will always be a 10.

The best way to do this is to put your "domain" structures into a list. Lists are dynamic and can change sizes/types. They have a weird way of indexing, though. The following example shows you how to put your structure into a list, then change element 0 of the list to have only 5 instances of "domain".

IDL> temp_results = REPLICATE({domain:REPLICATE({frame :fltarr(1), particles : fltarr(5,6000)}, 10)} , 500)
IDL> results = list(temporary(temp_results), /extract)
IDL> iKeep = [0,1,2,3,4]
IDL> results[0] = results[0,iKeep]
IDL> help, results[0]
<Expression>   STRUCT   = -> <Anonymous> Array[5]

This is a bit slow, so if you can put your domains directly into the list instead of extracting them, you will be better off.

Subject: Re: Instances of structure array with varying no. of elements
Posted by David Fanning on Tue, 28 Jan 2014 16:15:53 GMT
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midhunjoyp@gmail.com writes:

> Is there any method for doing this operation ?

An "array" in IDL contains identical things in each element. You might
be looking for a "list", which often acts like an array, but which can
contain a different kind of thing in each element.

Cheers,

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

Subject: Re: Instances of structure array with varying no. of elements
Posted by midhunjoyp on Tue, 28 Jan 2014 16:53:44 GMT
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On Tuesday, January 28, 2014 10:47:40 AM UTC-5, midhu...@gmail.com wrote:
> Hi all,
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> But, with:
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> print, n_elements(results[0].domain) : Returns value 10, which indicates that the size remains unchanged.
>
>
>
> Is there any method for doing this operation ?
>
>
>
>
>
> Best,
>
> Midhun

Hi Matthew & David,

I had completely forgotten the concept of lists.
Thanks a lot for the help.

Best,
Midhun