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Subject: Re: Structure of arrays or arrays of structures?

Posted by [R.Bauer](#) on Fri, 23 Jan 2009 08:11:36 GMT

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Brian Larsen schrieb:

> All,

>

> this may be philosophy but I have fought with both today and I am

> wondering if there are pros and cons to the different

> implementations.

>

> My example is that when I read in text files I build a structure of

> arrays:

> IDL> help, data

> DATA           STRUCT    => <Anonymous> Array[1]

> IDL> help, data, /str

> \*\* Structure <1a07a08>, 5 tags, length=212480, data length=212480,

> refs=1:

>   JD            DOUBLE    Array[5312]

>   PAS0           DOUBLE    Array[5312]

>   PAS90          DOUBLE    Array[5312]

>   MEP0E3         DOUBLE    Array[5312]

>   MEP90E3        DOUBLE    Array[5312]

>

> and when I read cdf data (at least from ACE) I get arrays of

> structures

> IDL> help, data

> DATA           STRUCT    => <Anonymous> Array[36451]

> IDL> help, data, /str

> \*\* Structure <19cf008>, 45 tags, length=200, data length=196, refs=1:

>   DNUM           DOUBLE        0.0000000

>   YEAR           LONG           2007

>   DAY            LONG           165

>   HR             LONG            0

>   MIN            LONG            0

>   SEC            FLOAT          8.98560

>

> Are there memory issues with one way or the other? Other things I

> haven't thought about?

>

> I prefer the feel of the structure of arrays since I like typing

>   tmp = data.jd[0:10]

> more than I like typing

>   tmp = data[0:10].jd

Hi

well with the last one you can quite easy create slices of your data set

by result = data[ix]. It also could be used with table widgets or for an example by xvaredit.

Your preferred solution is easy to use for all kind of tag manipulation, e.g. removing, renaming, adding another tag into the same structure.

Long time ago we have added reform\_struct to our library.

[http://www.fz-juelich.de/zb/datapool/page/439/00322\\_Bauer.pdf](http://www.fz-juelich.de/zb/datapool/page/439/00322_Bauer.pdf) page 57 (text in german, examples in idl)

cheers  
Reimar

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>  
> Cheers,  
>  
> Brian  
>  
> -----  
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