
Subject: Re: indexing over structure tags

Posted by [R.Bauer](#) on Tue, 24 Apr 2001 07:45:13 GMT

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Randall Skelton wrote:

>
> Thanks Tom... I did think of that. However, in this particular case there
> is some merit in having the name of the structure be a useful and human
> readable tag. Nobody would be happy trying to remember yet another
> arbitrary numbering scheme for molecules when they'd rather just type the
> name ;) My suspicion is that there isn't an easy way to do what I want...
>
> Randall
>

Dear Randall,

I will show you an easy way, how to access any level of a structure
by incrementing of a an array.

may be we have a structure like

```
pi={name:'p.mustermann'}  
global={pi:pi}  
n2o={param:fltarr(10),short_name:'N2O',long_name:'mixing  
ratio',units:'ppb',flag:'NONE'}  
time={param:fltarr(10),short_name:'time',long_name:'time  
[UT]',units:'seconds since 2000-01-01 00:00:00 UTC', flag:'NONE'}
```

```
icgs={!global:global,time:time,n2o:n2o}
```

more attribute of this data structure are explained by my publication.
<http://www.fz-juelich.de/zb/text/publikation/juel3786.html>

The following routine creates an array of tagnames and an
array of pointers of any submitted structure
The return value of this function is n_elements(names)
and the keywords names and ptr_values

```
n=struct2names_and_ptrs(icgs,names=names,ptr_values=ptr_valu es)  
PRINT,n  
IDL> 11
```

```
IDL> PRINT,names  
!GLOBAL.PI.NAME TIME.PARAM TIME.SHORT_NAME TIME.LONG_NAME TIME.UNITS
```

TIME.FLAG

N2O.PARAM N2O.SHORT_NAME N2O.LONG_NAME N2O.UNITS N2O.FLAG

```
IDL> FOR I=0,n-1 do help,*(ptr_values[i])
```

```
<PtrHeapVar1>  STRING  = 'p.mustermann'
```

```
<PtrHeapVar2>  FLOAT   = Array[10]
```

```
<PtrHeapVar3>  STRING  = 'time'
```

```
<PtrHeapVar4>  STRING  = 'time [UT]'
```

```
<PtrHeapVar5>  STRING  = 'seconds since 2000-01-01 00:00:00 UTC'
```

```
<PtrHeapVar6>  STRING  = 'NONE'
```

```
<PtrHeapVar7>  FLOAT   = Array[10]
```

```
<PtrHeapVar8>  STRING  = 'N2O'
```

```
<PtrHeapVar9>  STRING  = 'mixing ratio'
```

```
<PtrHeapVar10> STRING  = 'ppb'
```

```
<PtrHeapVar11> STRING  = 'NONE'
```

http://www.fz-juelich.de/icg/icg1/idl_icglib/idl_source/idl_html/dbase/download/struct2names_and_ptrs.tar.gz

This routine was written to use by add_tag, delete_tag, replace_tagvalue and rename_tag

on each level of a structure with the following routine you are able to build any structure defined from names and ptr_values.

http://www.fz-juelich.de/icg/icg1/idl_icglib/idl_source/idl_html/dbase/download/names_and_ptrs2struct.tar.gz

For further routines and licensing please look at

http://www.fz-juelich.de/icg/icg1/idl_icglib/idl_lib_intro.html

Is this the solution of your problem?

Reimar

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Reimar Bauer

Institut fuer Stratosphaerische Chemie (ICG-1)

Forschungszentrum Juelich

email: R.Bauer@fz-juelich.de

<http://www.fz-juelich.de/icg/icg1/>

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a IDL library at Forschungszentrum Jülich

http://www.fz-juelich.de/icg/icg1/idl_icglib/idl_lib_intro.html

<http://www.fz-juelich.de/zb/text/publikation/juel3786.html>
