
Subject: Re: Indexing into Structures???

Posted by [R.Bauer](#) on Thu, 19 Sep 2002 11:52:35 GMT

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Randall Skelton wrote:

```
> Indeed there is a way, but it isn't easy to find in the IDL help. If I
> remember correctly, it is under the heading of 'advanced' structure usage.
> In any case, what you will want is the function 'n_tags()' and the syntax
> 's.(i)' where s is your structure name, and i is the index number. Note
> that the round brackets are important.
>
> IDL> s = { a:0L, b:0L, c:0L }
> IDL> for i=0, n_tags(s)-1 do s.(i) = 1
>
> IDL> help, s, /structure
> ** Structure <81b7cb4>, 3 tags, length=12, data length=12, refs=1:
>   A      LONG      1
>   B      LONG      1
>   C      LONG      1
>
> IDL> print, s.(1)
>      1
>
> It is worth noting that if you ever want to use pointers with a structure,
> an extra set of brackets is often required... i.e.
>
> IDL > a = ptr_new(s)
> IDL > print, (*a).(1)
>      1
```

Here is another way.

We have written a routine which is able to build two vectors from a structure (and with substructures). One holds the definition of the levels and one is a vector of pointers where each pointer is a pointer of the corresponding tag value.

These vectors could be transformed back into a structure, mainly we use this for `add_tag`, `rename_tag`, `delete_tag` and `replace_tagvalue` on each tag level.

Here is a small example

```
n=struct2names_and_ptrs(!P,names=names,ptr_values=ptr_values )
print,transpose(names)
```

BACKGROUND
CHARSIZE

CHARTHICK
CLIP
COLOR
FONT
LINESTYLE
MULTI
NOCLIP
NOERASE
NSUM
POSITION
PSYM
REGION
SUBTITLE
SYMSIZE
T
T3D
THICK
TITLE
TICKLEN
CHANNEL

for i=0,n-1 do print,*ptr_values[i]

Here is a lot of output so I don't like to write it down

You may be interested how to build a structure again from these two vectors.

It's easy

result=names_and_ptrs2struct(names,ptr_values)

help,result,/str

** Structure <82ef18c>, 22 tags, length=288, data length=288, refs=1:

BACKGROUND	LONG	255
CHARSIZE	FLOAT	0.00000
CHARTHICK	FLOAT	0.00000
CLIP	LONG	Array[6]
COLOR	LONG	0

and so on

You can find both routines here and many others in our library

http://www.fz-juelich.de/icg/icg-i/idl_icglib/idl_source/idl

[_html/dbase/download/struct2names_and_ptrs.tar.gz](#)

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

or as idl5.5 binary

http://www.fz-juelich.de/icg/icg-i/idl_icglib/idl_source/idl_html/dbase/download/struct2names_and_ptrs.sav
http://www.fz-juelich.de/icg/icg-i/idl_icglib/idl_source/idl_html/dbase/download/names_and_ptrs2struct.sav

For further routines and licensing please have a look at.
http://www.fz-juelich.de/icg/icg-i/idl_icglib/idl_lib_intro.html

best regards

Reimar

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a IDL library at Forschungszentrum Juelich

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

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