
Subject: Re: Finding if a structure tag name is defined?
Posted by [David Fanning](#) on Tue, 14 Oct 2003 14:32:36 GMT
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William writes:

> I want to know if a given keyword has been passed down via `_extra`, so
> I said "if (n_elements(e.c_linestyle) ne 0)" which of course doesn't
> work because if it isn't there you can't say `e.linestyle` (bring on
> perl...). I can use tag names to get all the tags, then search through
> for a match, but that seems silly and ugly. What is the correct way
> to find if a given structure has a certain tag in it? (And why
> couldn't I find the answer buried within DF's site ;-)?

`_EXTRA` is often a great convenience (and maybe even a miracle when you are writing object programs), but it should NOT be used to collect keywords you care about (at least not in the way you appear to be using it here). In fact, I'm adding a rule to Coyote's List of Rules You Violate Only If You Wish Your Program to Break at the Most Inopportune Moment:

Rule 3495: If you care about a keyword, be sure
 you define it somewhere!

Consider the `PLOT` command. It has 50-60 different keywords that can be used with it. But if you are writing some kind of wrapper to the `PLOT` command that uses a nifty new plot symbol, you could care less about 49-59 of those keywords. But you care desperately about the `PSYM` keyword. In that case, you MUST define a `PSYM` keyword for your program.

It is not fair to write this program and then decide later than you really care about the `LINESTYLE` keyword, too, and decide to fish it out of the `_EXTRA` structure. (And what a nightmare, since you will have to look for *all* possible spellings of `LINESTYLE`!) If you care about it, you define it. Period. :-)

All those other keywords can be collected easily and simply with `_EXTRA`. It is a convenience. (And also, occasionally, a pain in the neck. Maybe you really want to use `_STRICT_EXTRA` instead. Think about it.)

`_EXTRA` gives you more time to go drink coffee. But it doesn't take away the responsibility of being a conscientious programmer. :-)

Cheers,

David

--

David W. Fanning, Ph.D.

Fanning Software Consulting, Inc.

Phone: 970-221-0438, E-mail: david@dfanning.com

Coyote's Guide to IDL Programming: <http://www.dfanning.com/>

Toll-Free IDL Book Orders: 1-888-461-0155

Subject: Re: Finding if a structure tag name is defined?

Posted by [R.Bauer](#) on Tue, 14 Oct 2003 16:34:17 GMT

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wmc@bas.ac.uk wrote:

> I want to know if a given keyword has been passed down via _extra, so
> I said "if (n_elements(e.c_linestyle) ne 0)" which of course doesn't
> work because if it isn't there you can't say e.linestyle (bring on
> perl...). I can use tag names to get all the tags, then search through
> for a match, but that seems silly and ugly. What is the correct way
> to find if a given structure has a certain tag in it? (And why
> couldn't I find the answer buried within DF's site ;-)?
>
> -W.
>

I often use is_tag to determine if a tag is in a structure

```
; PURPOSE:  
;   Test if tagname is defined  
;  
;  
; CATEGORY:  
;   PROG_TOOLS/STRUCTURES  
;  
; CALLING SEQUENCE:  
;   Result=is_tag(structure,tagname)
```

http://www.fz-juelich.de/icg/icg-i/idl_icglib/idl_source/idl_html/dbase/is_tag_dbase.pro.html

regards

Reimar

--

Forschungszentrum Juelich
email: R.Bauer@fz-juelich.de
<http://www.fz-juelich.de/icg/icg-i/>

=====

a IDL library at Forschungszentrum Juelich
http://www.fz-juelich.de/icg/icg-i/idl_icglib/idl_lib_intro.html

Subject: Re: Finding if a structure tag name is defined?
Posted by [David Fanning](#) on Tue, 14 Oct 2003 16:55:47 GMT
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Reimar Bauer writes:

```
> I often use is_tag to determine if a tag is in a structure
>
> ; PURPOSE:
> ; Test if tagname is defined
> ;
> ; CATEGORY:
> ; PROG_TOOLS/STRUCTURES
> ;
> ; CALLING SEQUENCE:
> ; Result=is_tag(structure,tagname)
```

But, alas, you are still going to have to call IS_TAG
as many times as you have letters in your keyword, if
you hope to fish it out unambiguously. :-(

Cheers,

David

--

David W. Fanning, Ph.D.
Fanning Software Consulting, Inc.
Phone: 970-221-0438, E-mail: david@dfanning.com
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Subject: Re: Finding if a structure tag name is defined?
Posted by [wmconolley](#) on Tue, 14 Oct 2003 21:53:41 GMT
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David Fanning <david@dfanning.com> wrote:
> Reimar Bauer writes:

>> I often use `is_tag` to determine if a tag is in a structure

OK, thanks, I'll give it a go.

> But, alas, you are still going to have to call `IS_TAG`
> as many times as you have letters in your keyword, if
> you hope to fish it out unambiguously. :-(

Hmm, so, isn't that a flaw in IDL? Taking on board your well-reasoned critique of (over)using `_extra`, it still seems quite reasonable to expect to be able to find if a given tag exists in a given structure, via a mechanism as simple as using `n_elements` to see if a given variable exist. IDL seems to make this simple task harder than it should be.

(and anyway, looking at the pro, it only needs calling once).

-W.

--

William M Connolley | wmc@bas.ac.uk | <http://www.antarctica.ac.uk/met/wmc/>
Climate Modeller, British Antarctic Survey | Disclaimer: I speak for myself
I'm a .signature virus! copy me into your .signature file & help me spread!

Subject: Re: Finding if a structure tag name is defined?
Posted by [David Fanning](#) on Tue, 14 Oct 2003 22:19:39 GMT
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William writes:

> Hmm, so, isn't that a flaw in IDL?

Oh, I don't get into criticising IDL. I just take it as it comes and am grateful for it. :-)

> (and anyway, looking at the pro, it only needs calling once).

Ah, yes. I just looked at the procedure briefly and overlooked this neat Reimer trick! Well done.

Cheers,

David

--

David W. Fanning, Ph.D.
Fanning Software Consulting, Inc.

Subject: Re: Finding if a structure tag name is defined?
Posted by [Mark Hadfield](#) on Wed, 15 Oct 2003 02:35:58 GMT
[View Forum Message](#) <> [Reply to Message](#)

wmc@bas.ac.uk wrote:

> David Fanning <david@dfanning.com> wrote:
>
>> Reimar Bauer writes:
>>
>>> I often use is_tag to determine if a tag is in a structure
>
>> But, alas, you are still going to have to call IS_TAG
>> as many times as you have letters in your keyword, if
>> you hope to fish it out unambiguously. :-(
>
> Hmm, so, isn't that a flaw in IDL? Taking on board your
> well-reasoned critique of (over)using _extra, it still seems
> quite reasonable to expect to be able to find if a given tag
> exists in a given structure, via a mechanism as simple as
> using n_elements to see if a given variable exist. IDL seems
> to make this simple task harder than it should be.
>
> (and anyway, looking at the pro, it only needs calling once).

I thought David's point was that searching for a tag in the _EXTRA structure (which is a little harder than it should be in IDL, but not all that onerous) is something you generally should not do, because it becomes laborious if you want to support keyword abbreviation. And of course you **do** want to handle keyword abbreviation, unless you want to write documentation that says "IDL allows abbreviated keywords, except in my routines".

If you aren't interested in a keyword in the current routine, bundle it in an _EXTRA structure (or _REF_EXTRA hidden string-array thingy). If you do, declare it explicitly.

--

Mark Hadfield "Ka puwaha te tai nei, Hoesa tatou"
m.hadfield@niwa.co.nz
National Institute for Water and Atmospheric Research (NIWA)

Subject: Re: Finding if a structure tag name is defined?
Posted by [mvukovic](#) on Wed, 15 Oct 2003 18:51:58 GMT
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wmc@bas.ac.uk wrote in message news:<3f8bebd3@news.nwl.ac.uk>...
> I want to know if a given keyword has been passed down via _extra, so
> I said "if (n_elements(e.c_linestyle) ne 0)" which of course doesn't
> work because if it isn't there you can't say e.linestyle (bring on
> perl...). I can use tag names to get all the tags, then search through
> for a match, but that seems silly and ugly. What is the correct way
> to find if a given structure has a certain tag in it? (And why
> couldn't I find the answer buried within DF's site ;-)?
>
> -W.

You may find the following routine usefull. It uses regular
expression matching to check for matches.

You may off course, combine it with some of the type-checking routines
posted on this thread

Mirko

```
function WhereKwdLike,vsStringVector,sString,cFound,_extra=_extra
; function returns matches of String in String Vector. A match occurs
; when the string, of length N matches the first N characters of a
; vector element. This function mimics the behavior of IDL when it
; matches an incomplete keyword.

;; Use a regular expression match. We match the String vector against
;; the string regular expression. In the regular expression, ^
matches
;; the string beginning and .* will match any number of characters
  viMatches=StRegEx(vsStringVector,'^'+sString+'.*',/Fold_Case , $
                    _extra=_extra)
  viFound=where(viMatches eq 0,cFound)
  return,viFound
end
```
