
Subject: Passing keywords to DLM
Posted by [jargoogle](#) on Sun, 08 Aug 2004 19:43:41 GMT
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Hello,

I'm adapting Henry Chapman's DLM (itself modified from an earlier version) for calling the FFTW v3 fast fourier transform library.

Henry's dlm:

http://groups.google.com/groups?as_umsgid=b8f3f671.0312132158.5cda69f4@posting.google.com

I'm working on an Ultra Sparc 5 running Solaris 7 using IDL version 5.6 and Solaris compilers. So far, so good, except that only 2 of 7 keywords are recognized. Of the keywords, (X, Y, Z, MEDIUM, HI, OVERWRITE, and CLEANUP), only MEDIUM and HI are recognized.

All are treated as read only input boolean keywords. In the kw_pars[] array, they all look something like:

```
{ "X", IDL_TYP_LONG, 1, IDL_KW_ZERO|IDL_KW_VALUE|15, 0,
  IDL_KW_OFFSETOF(x) },
```

My IDL wrapper syntax looks something like:

```
dataOut = fftdft3D_IDL(dataIn, direction, [x=x, y=y, z=z,
medium=medium, $
    hi=hi, overwrite=overwrite, cleanup=cleanup])
```

The following perform as expected:

```
dataOut = fftdft3D_IDL(findgen(16,16,16), -1)
dataOut = fftdft3D_IDL(findgen(16,16,16), -1, /medium)
dataOut = fftdft3D_IDL(findgen(16,16,16), -1, /hi)
```

While no other option using the keywords works:

```
dataOut = fftdft3D_IDL(findgen(16,16,16), -1, /x)
% Loaded DLM: FFTDFT3D_IDL.
% Keyword X not allowed in call to: FFTDFT3D_IDL
% Execution halted at: $MAIN$
```

Now, I thought that perhaps there was an ambiguity with single letter keywords, but that doesn't explain why overwrite and cleanup are not recognized. They generate the same "not allowed" message.

Yet the keywords that are "not allowed" are all syntactically the same as far as the c-code declarations of kw_pars[] and KW_RESULT are concerned.

The DLM:
MODULE fftdft3D_IDL
DESCRIPTION 3-dimensional Complex fftw (v.3)
VERSION \$Revision: 1.0 \$
BUILD_DATE \$Date: Thu Aug 5 09:19:05 MDT 2004\$
SOURCE J. Roberts
FUNCTION fftdft3D_IDL 1 2 KEYWORDS

Any ideas?

Stumped,
JG.

Subject: Re: Passing keywords to DLM
Posted by [jargoogle](#) on Mon, 09 Aug 2004 19:53:01 GMT
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Hello,

Well, I seem to have solved my problem. I arranged the declarations in IDL_KW_PAR in alphabetical order. At that point, all my keywords were recognized and the code functions as desired.

I did a search on the manual pages to see if the alphabetical order is mentioned, but found nothing. I note that all the keyword processing examples given in the manual declare the values in IDL_KW_PAR in alphabetical order. Perhaps this requirement is mentioned elsewhere?

Other things I tried (before alphabetizing) which did NOT fix my problem: 1) turn off the fast keyword scan option: no change; and 2) Remove the IDL_KW_VALUE[15] fields and leave IDL_KW_ZERO only: no change.

Cheers,
JGG.

Subject: Re: Passing keywords to DLM
Posted by [David Fanning](#) on Mon, 09 Aug 2004 20:02:07 GMT
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JGG writes:

> I did a search on the manual pages to see if the alphabetical order

> is mentioned, but found nothing. I note that all the keyword
> processing examples given in the manual declare the values in
> IDL_KW_PAR in alphabetical order. Perhaps this requirement is
> mentioned elsewhere?

Well, I think have to know that "lexical order" means
"alphabetical order". I presume most computer programmers
have taken at least one linguistics class. In any case,
no one here has probably run into the problem, because
all decent programmers define their keywords alphabetically
as a matter of course. :^)

Cheers,

David

P.S. What do you mean you don't alphabetize your
keywords!? What's wrong with you!

--

David Fanning, Ph.D.

Fanning Software Consulting, Inc.

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

Subject: Re: Passing keywords to DLM

Posted by [jargoogle](#) on Tue, 10 Aug 2004 03:22:00 GMT

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David Fanning <davidf@dfanning.com> wrote in message
news:<MPG.1b8186298f1c396898981b@news.frii.com>...

> Well, I think have to know that "lexical order" means
> "alphabetical order". I presume most computer programmers

Sigh. I understand "lexical", but skimmed right over it and missed it
everytime I went looking for the ordering requirement.

> P.S. What do you mean you don't alphabetize your
> keywords!? What's wrong with you!

I suppose I should lexically order all the keywords in my IDL source
now to be consistent. ;-)

Wouldn't it be interesting to catalog common errors, sort them, and in
a tutorial list the top 5 common mistakes? Something like, "Here are
the top 5 things that did NOT work when people tried to implement the
ideas described here and here is why they failed."

I've always imagined a use for a journal of failed research. Sure, sometimes brilliant people discover the same thing at the same time. Think of the numbers though of all the people who try the same unworkable idea and fail silently, leaving later generations to repeat the waste of time. Too bad the journal of failed research would probably fill every shelf on the planet. It would have to be tightly refereed to include only those ideas most often entertained and studied with no useful results.

Cheers,
JGG.

Subject: Re: Passing keywords to DLM
Posted by [David Fanning](#) on Tue, 10 Aug 2004 04:05:44 GMT
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JGG writes:

> Wouldn't it be interesting to catalog common errors, sort them, and in
> a tutorial list the top 5 common mistakes? Something like, "Here are
> the top 5 things that did NOT work when people tried to implement the
> ideas described here and here is why they failed."

It would be interesting. Of course, "Device, Decomposed=0" would be at the top of the list by a wide margin. Followed, I suppose, by "Device, Color=1, Bits_Per_Pixel=8" for color PostScript output. But beyond that, I don't know. But I'm pretty sure alphabetizing keywords wouldn't even make the top 100. :-)

Cheers,

David

--

David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: <http://www.dfanning.com/>

Subject: Re: Passing keywords to DLM
Posted by [kuyper](#) on Tue, 10 Aug 2004 12:49:47 GMT
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jargoogle@explore4life.com (JGG) wrote in message
news:<4ed7753c.0408091922.7ff5e2b0@posting.google.com>...

...

- > I've always imagined a use for a journal of failed research. Sure,
- > sometimes brilliant people discover the same thing at the same time. Think of the numbers
- though of all the people who try the same
- > unworkable idea and fail silently, leaving later generations to repeat
- > the waste of time. Too bad the journal of failed research would
- > probably fill every shelf on the planet. It would have to be tightly
- > refereed to include only those ideas most often entertained and
- > studied with no useful results.

Richard Feynman wrote that a good scientist should always publish the results of his work, whether or not he finds what he's looking for. It's a fundamental part of what "integrity" means for a scientist, and the reason you give is one of the reasons why this is so.

Subject: Re: Passing keywords to DLM
Posted by [Haje Korth](#) on Tue, 10 Aug 2004 13:05:27 GMT
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This is the beauty of Ronn's book. Everything is explained in plain English. An the alphabetical order is also clearly mentioned in there.

Haje

"David Fanning" <davidf@dfanning.com> wrote in message
news:MPG.1b8186298f1c396898981b@news.frii.com...

- > JGG writes:
- >
- >> I did a search on the manual pages to see if the alphabetical order
- >> is mentioned, but found nothing. I note that all the keyword
- >> processing examples given in the manual declare the values in
- >> IDL_KW_PAR in alphabetical order. Perhaps this requirement is
- >> mentioned elsewhere?
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- > "alphabetical order". I presume most computer programmers
- > have taken at least one linguistics class. In any case,
- > no one here has probably run into the problem, because
- > all decent programmers define their keywords alphabetically
- > as a matter of course. :^)
- >
- > Cheers,
- >
- > David
- >
- > P.S. What do you mean you don't alphabetize your

- > keywords!? What's wrong with you!
- > --
- > David Fanning, Ph.D.
- > Fanning Software Consulting, Inc.
- > Coyote's Guide to IDL Programming: <http://www.dfanning.com/>
