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Subject: Delvar?

Posted by [wmconolley](#) on Fri, 28 Jun 2002 11:09:56 GMT

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I understand that I can't use delvar in subroutines, only at the main prompt. But if I do verybigarray=0, does that get rid of the memory usage anyway?

-W.

--

William M Connolley | [wmc@bas.ac.uk](mailto:wmc@bas.ac.uk) | <http://www.nerc-bas.ac.uk/icd/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!

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Subject: Re: Delvar?

Posted by [David Fanning](#) on Fri, 28 Jun 2002 19:01:18 GMT

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William ([wmc@bas.ac.uk](mailto:wmc@bas.ac.uk)) writes:

> OK, I've read it, but I have only a vague idea of why:  
>  
> tempvar = Size(Temporary(varname))  
>  
> works to delete varname...

Alright. First of all, this code is inside a procedure.  
That's important. UNDEFINE looks like this:

```
.*****  
,  
PRO UNDEFINE, varname  
IF (N_Elements(varname) NE 0) THEN tempvar = Size(Temporary(varname))  
END  
.*****  
,
```

The variable varname is passed in by reference. So anything we do to it inside the procedure will affect it outside the procedure as well. In your case, you are passing the variable image into this procedure:

    Undefine, image

What we do is undefine varname by using it as an argument to the TEMPORARY function, returning something of similar size and type for the SIZE function to digest. But when SIZE is finished, varname is undefined.

But, of course, we have created the variable tempvar, which is a bit bigger than our original image = 0 problem we started with. But, since we are inside a procedure, any memory allocated to tempvar is release once the procedure exits. The result is that we have completely undefined the variable varname (and, because it was passed by reference, the variable image), and we no have all the memory originally associated with image available to re-use in our program.

Plus, if you use the variable image subsequently in an expression, you will get the message that "image is undefined" rather than something else that would make absolutely no sense in the context of your program. It just looks a whole lot cleaner and you can see at a glance in your code what you are doing. :-)

Cheers,

David

--

David W. Fanning, Ph.D.

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

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Subject: Re: Delvar?

Posted by [David Fanning](#) on Fri, 28 Jun 2002 20:18:49 GMT

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David Fanning (david@dfanning.com) writes:

```
> Alright. First of all, this code is inside a procedure.
> That's important. UNDEFINE looks like this:
>
> *****
> ,
> PRO UNDEFINE, varname
> IF (N_Elements(varname) NE 0) THEN tempvar = Size(Temporary(varname))
> END
> *****
> ,
```

Oh, oh. I think my problem is that I'm not anal enough. :-(

It was gently pointed out to me that, uh, the SIZE function isn't really doing anything worthwhile here, so why put it in?

My only excuse is that you know how these things go.  
You're standing around glaring at that &#\*@ down-the-line  
backhand that went long \*again\*, and an idea suddenly  
comes to you. By the time you get back to the office  
the sudden clarity has turned to mush and you cast around  
for inspiration. In the end, the final result contains  
unmistakable marks of your own muddleheadedness.

But this is only version two of a three line program. I must  
be a better programmer than I think. It usually takes me at  
least five versions to get it right. :-)

```
.*****  
,  
PRO UNDEFINE, varname  
  IF (N_Elements(varname) NE 0) THEN tempvar = Temporary(varname)  
END  
.*****  
,
```

Cheers,

David

--

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Subject: Re: Delvar?  
Posted by [Craig Markwardt](#) on Fri, 28 Jun 2002 21:07:26 GMT  
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David Fanning <david@dfanning.com> writes:

```
> David Fanning (david@dfanning.com) writes:  
>  
>> Alright. First of all, this code is inside a procedure.  
>> That's important. UNDEFINE looks like this:  
>>  
>> .*****  
>> ,  
>> PRO UNDEFINE, varname  
>> IF (N_Elements(varname) NE 0) THEN tempvar = Size(Temporary(varname))  
>> END  
>> .*****  
>> ,  
>  
> Oh, oh. I think my problem is that I'm not anal enough. :-(
```

>  
> It was gently pointed out to me that, uh, the SIZE function  
> isn't really doing anything worthwhile here, so why put  
> it in?

Hi David--

Actually I like the SIZE() function there. If VARNAME is a large array, then you are just wasting cycles copying it to TEMPVAR, only to have it erased a moment later when the UNDEFINE procedure returns.

What I do often enough is the following slight variation.

```
.*****  
,  
PRO UNDEFINE, varname  
  varname = 0  
  tempvar = temporary(varname)  
END  
.*****  
,
```

This assures that the memory associated with VARNAME is released first, and then the TEMPORARY() call is only there to release the "0". In the line-count contest with you, I lose, but in the character count contest, I win!

Craig

--

-----  
Craig B. Markwardt, Ph.D.      EMAIL: craigmnet@cow.physics.wisc.edu  
Astrophysics, IDL, Finance, Derivatives | Remove "net" for better response  
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Subject: Re: Delvar?

Posted by [David Fanning](#) on Fri, 28 Jun 2002 21:35:36 GMT

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Craig Markwardt (craigmnet@cow.physics.wisc.edu) writes:

> Actually I like the SIZE() function there. If VARNAME is a large  
> array, then you are just wasting cycles copying it to TEMPVAR, only to  
> have it erased a moment later when the UNDEFINE procedure returns.

If I understand my source correctly (and believe me, this guy ought to know) there is really no copying going on. More like pointer re-positioning. But I have to admit, I've never really noticed a huge slow-down using \*any\* of

these methods. ;-)

Cheers,

David

--

David W. Fanning, Ph.D.

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