
Subject: Re: Weirdest Error Ever

Posted by [Foldy Lajos](#) on Wed, 18 Oct 2006 17:44:05 GMT

[View Forum Message](#) <> [Reply to Message](#)

On Wed, 18 Oct 2006, David Fanning wrote:

> Folks,
>
> I've been working this morning on an error that is so
> weird I'm beginning to think it is possible I have
> completely lost my mind.
>
> The error occurs in my COLORBAR routine. I have two
> files. The files are identical, except for the following
> line.
>
> File that works perfectly:
>
> bar = BYTSCL(bar, TOP=(ncolors-1 < (255-bottom))) + bottom
>
> File that fails:
>
> bar = BYTSCL(bar, TOP=(ncolors-1) < (255-bottom)) + bottom
>
> In both files, the following three lines follow the line above:
>
> IF Keyword_Set(reverse) THEN BEGIN
> bar = Reverse(bar,1)
> ENDIF
>
> The variable bar is defined originally like this:
>
> bar = BINDGEN(ncolors) # REPLICATE(1B, 20)
>
> where ncolors is 256, so it is a 256 by 20 byte array. The variable
> bottom is 0.
>
> The error occurs on the line containing REVERSE. Here is the error:
>
> IDL> Colorbar, /Reverse
> Subscript range values of the form low:high must be >= 0, < size,
> with low <= high: REVERSE.
> Error occurred at: COLORBAR 286 C:\RSI\IDL Course\colorbar.pro
> \$MAIN\$
> Execution halted at: \$MAIN\$
>
> Oddly, REVERSE, which is an IDL library routine is *not* compiled
> when the error occurs, and I am certain the error is not coming from

> REVERSE, because I can't step into REVERSE as I try to debug the
> program. I think the error is a system error from IDL
>
> Even MORE oddly, if I start a fresh session and compile REVERSE
> before I do anything else, the program that fails works perfectly!!
> If I start a fresh session and compile the program that fails, then
> compile REVERSE, then run the program, it *still* fails.
>
> Here is the result of HELP, /SOURCE in the latter case, which
> is *identical* to the same command in the former case:
>
> IDL> help, /source
> Compiled Procedures:
> \$MAIN\$
> COLORBAR C:\RSI\IDL Course\colorbar.pro
>
> Compiled Functions:
> REVERSE C:\RSI\IDL62\lib\reverse.pro
>
> If I start a fresh session and just try to execute the code that
> seems to be giving me problems here, I have NO problem!
>
> IDL> ncolors=256
> IDL> bottom=0
> IDL> bar = BINDGEN(ncolors) # REPLICATE(1B, 20)
> IDL> bar = BYTSCL(bar, TOP=(ncolors-1) < (255-bottom)) + bottom
> IDL> bar = reverse(bar, 1)
> Compiled module: REVERSE.
>
> Does anyone have the foggiest idea of what could be going on here!?
>
> Cheers,
>
> David
> --
> David Fanning, Ph.D.
> Fanning Software Consulting, Inc.
> Coyote's Guide to IDL Programming: <http://www.dfanning.com/>
> Sepore ma de ni thui. ("Perhaps thou speakest truth.")
>

Hi David,

don't you have a 1D array named Reverse somewhere? Have you tried
compile_opt strictarr?

regards,
lajos

Subject: Re: Weirdest Error Ever

Posted by [David Fanning](#) on Wed, 18 Oct 2006 18:03:59 GMT

[View Forum Message](#) <> [Reply to Message](#)

Lajos writes:

> don't you have a 1D array named Reverse somewhere? Have you tried
> compile_opt strictarr?

Yes, I can fix it with compile_opt StrictArr, too.
And I have now narrowed the problem down to IDL
thinking the REVERSE(bar) call is a subscripted
variable call and not a function call. I know
how to *fix* this--I have a version that works,
after all.

What I am interested in knowing is how this line:

```
bar = BYTSCL(bar, TOP=(ncolors-1) < (255-bottom)) + bottom
```

confuses IDL into thinking my REVERSE call two lines
later is a variable subscript and not a function call.
What is THAT all about!?

Cheers,

David

--

David Fanning, Ph.D.

Fanning Software Consulting, Inc.

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

Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Subject: Re: Weirdest Error Ever

Posted by [David Fanning](#) on Wed, 18 Oct 2006 18:10:31 GMT

[View Forum Message](#) <> [Reply to Message](#)

David Fanning writes:

> Lajos writes:
>
>> don't you have a 1D array named Reverse somewhere? Have you tried
>> compile_opt strictarr?
>
> Yes, I can fix it with compile_opt StrictArr, too.
> And I have now narrowed the problem down to IDL
> thinking the REVERSE(bar) call is a subscripted

> variable call and not a function call. I know
> how to *fix* this--I have a version that works,
> after all.
>
> What I am interested in knowing is how this line:
>
> bar = BYTSCL(bar, TOP=(ncolors-1) < (255-bottom)) + bottom
>
> confuses IDL into thinking my REVERSE call two lines
> later is a variable subscript and not a function call.
> What is THAT all about!?

I guess I should mention, too, although you probably already realize this, that I have a REVERSE keyword defined for the COLORBAR routine. When I enter the program the *variable* reverse is set to 1. I didn't mention this before because someone is invariably going to point out that I also have an INVERTCOLORS keyword defined that does the very same thing as my REVERSE keyword and why the hell do you have TWO of them defined!? I just didn't want to get into all that. :-(

But the fundamental question still remains. Why does that line above confuse IDL about what REVERSE is?

Cheers,

David

--

David Fanning, Ph.D.

Fanning Software Consulting, Inc.

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

Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Subject: Re: Weirdest Error Ever

Posted by [Foldy Lajos](#) on Wed, 18 Oct 2006 18:32:35 GMT

[View Forum Message](#) <> [Reply to Message](#)

On Wed, 18 Oct 2006, David Fanning wrote:

> Even MORE oddly, if I start a fresh session and compile REVERSE
> before I do anything else, the program that fails works perfectly!!

When compiling COLORBAR, IDL sees that it has a function named REVERSE, so emits a function call op.

> If I start a fresh session and compile the program that fails, then

> compile REVERSE, then run the program, it *still* fails.

When compiling COLORBAR, IDL sees that it has no function named REVERSE, so emits an array subscripting op.

Function lookup comes first, then array subscripting. So, this part can be explained :-)

regards,
lajos

Subject: Re: Weirdest Error Ever

Posted by [David Fanning](#) on Wed, 18 Oct 2006 18:44:12 GMT

[View Forum Message](#) <> [Reply to Message](#)

Lajos writes:

> Function lookup comes first, then array subscripting. So, this part can be
> explained :-)

Yeah, yeah. IDL is confused. It thinks a function call is a variable reference. I get that that. I even understand how this works internally (more or less).

What I don't get is how THIS line causes the confusion:

```
bar = BYTSCL(bar, TOP=(ncolors-1) < (255-bottom)) + bottom
```

And this line doesn't:

```
bar = BYTSCL(bar, TOP=(ncolors-1 < (255-bottom))) + bottom
```

Any insights into that?

Cheers,

David

--

David Fanning, Ph.D.

Fanning Software Consulting, Inc.

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

Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Subject: Re: Weirdest Error Ever

Posted by [David Fanning](#) on Wed, 18 Oct 2006 18:51:05 GMT

David Fanning writes:

> Yeah, yeah. IDL is confused. It thinks a function call
> is a variable reference. I get that that. I even understand
> how this works internally (more or less).
>
> What I don't get is how THIS line causes the confusion:
>
> bar = BYTSCL(bar, TOP=(ncolors-1) < (255-bottom)) + bottom
>
> And this line doesn't:
>
> bar = BYTSCL(bar, TOP=(ncolors-1 < (255-bottom))) + bottom
>
> Any insights into that?

I guess it's fair to wonder why I care about this. One reason I care is that I think the line that causes confusion is the correct way to write the line, since it is less ambiguous than the second way. :-)

Cheers,

David

P.S. Anyone can fix problems. Experts, though, are suppose to understand why a whack on the side of the box fixes the damn thing.

--

David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: <http://www.dfanning.com/>
Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Subject: Re: Weirdest Error Ever
Posted by [David Fanning](#) on Wed, 18 Oct 2006 19:05:59 GMT
[View Forum Message](#) <> [Reply to Message](#)

David Fanning writes:

> I guess it's fair to wonder why I care about this. One
> reason I care is that I think the line that causes
> confusion is the correct way to write the line, since
> it is less ambiguous than the second way. :-)

Ah, never mind. I think it was a bug in WinMerge, which I was using to compare files. They weren't as "undifferent" as I was lead to believe. :-(

OK, now I understand why my original keyword was called INVERTCOLORS and not REVERSE. Sigh...

Cheers,

David

--

David Fanning, Ph.D.

Fanning Software Consulting, Inc.

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

Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Subject: Re: Weirdest Error Ever

Posted by [Karsten Rodenacker](#) on Thu, 19 Oct 2006 07:56:06 GMT

[View Forum Message](#) <> [Reply to Message](#)

Am Wed, 18 Oct 2006 19:37:13 +0200 schrieb David Fanning
<news@dfanning.com>:

> File that works perfectly:
> bar = BYTSCCL(bar, TOP=(ncolors-1 < (255-bottom))) + bottom
> File that fails:
> bar = BYTSCCL(bar, TOP=(ncolors-1) < (255-bottom)) + bottom

This reminds me on a syntax error which is again and again bothering me:

```
IDL> help,1 < -5
```

```
help,1 < -5
```

```
      ^
```

```
% Syntax error.
```

```
IDL> help,1 < (-5)
```

```
<Expression> INT      =      -5
```

```
Possibly ...
```

Regards

Karsten

--

Erstellt mit Operas revolutionärem E-Mail-Modul: <http://www.opera.com/m2/>

Subject: Re: Weirdest Error Ever

Posted by [Michael Galloy](#) on Thu, 19 Oct 2006 14:59:12 GMT

[View Forum Message](#) <> [Reply to Message](#)

Karsten Rodenacker wrote:

> This reminds me on a syntax error which is again and again bothering me:

>

> IDL> help,1 < -5

>

> help,1 < -5

>

> ^

> % Syntax error.

> IDL> help,1 < (-5)

> <Expression> INT = -5

> Possibly ...

This error is because <, >, +, and - have the same order of precedence.

So they are parsed left to right; "1 < -" is a syntax error. It does mean that David is right in wanting to put ()'s around operands in a < or > expressions (though in his particular case it was OK without them).

Mike

--

www.michaelgalloy.com

Subject: Re: Weirdest Error Ever

Posted by edward.s.meinel@aero on Thu, 19 Oct 2006 15:02:31 GMT

[View Forum Message](#) <> [Reply to Message](#)

The coyote was just messing with your mind...

Ed
