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Subject: Re: Can somebody explain this?

Posted by [K. Bowman](#) on Thu, 16 Sep 2004 13:16:57 GMT

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In article <cibvt8\$gmt\$1@canarie.caspar.it>,  
"sandrokan" <mura@remove.ifs.rm.cnr.it> wrote:

```
> (Sorry if it is a faw)
> I've spend days of dubbunging and then I've found that, on 5IDL.2:
>
> IDL> a=intarr(4)
>
> IDL> a(4)=1
>
> % Attempt to subscript A with <INT ( 4)> is out of range.
>
> % Execution halted at: $MAIN$
>
> IDL> a([4])=1
>
> IDL> print, a(3)
>
> 1
>
>
>
> Isn't it strange? Maybe it is reported somewhere in some idl guide, but I
> still can't believe
>
> it is real....
>
>
>
> Alex
>
>
>
```

This is an obscure feature of using arrays as subscripts. See Building IDL Applications, p 133.

### Clipping

If an element of the subscript array is less than or equal to zero, the first element of the subscripted array is selected. If an element of the subscript array is greater than or equal to the last subscript in the subscripted array, the last element is selected. This clipping of out of bounds elements can be disabled within a routine by using the

STRICTARRSUBS option to the COMPILE\_OPT statement. (See the

details.) If STRICTARRSUBS is in force, then array subscripts that refer to out of bounds elements will instead cause IDL to issue an error and stop execution, just as an outof-range scalar subscript does.

Ken Bowman

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Subject: Re: Can somebody explain this?

Posted by [sandrokan](#) on Thu, 16 Sep 2004 13:43:27 GMT

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"Kenneth Bowman" <k-bowman@null.tamu.edu> ha scritto nel messaggio news:k-bowman-02112F.08165716092004@news.tamu.edu...

Thank you. At least, it is reported somewhere; anyway, I find it quite dangerous to introduce such a feature for array subscripting and not for scalars. It is similar to permit "for" loops for not-integer values without accuracy....  
for i=0., 10, .1 do print, i

.....

7.70000

7.79999

.....

Regards,

Alex

---

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Subject: Re: Can somebody explain this?

Posted by [Matt Feinstein](#) on Thu, 16 Sep 2004 13:57:41 GMT

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On Thu, 16 Sep 2004 08:16:57 -0500, Kenneth Bowman  
<k-bowman@null.tamu.edu> wrote:

>

> This is an obscure feature of using arrays as subscripts. See Building  
> IDL Applications, p 133.  
>  
> Clipping  
>  
> If an element of the subscript array is less than or equal to zero, the  
> first element of the subscripted array is selected. If an element of the  
> subscript array is greater than or equal to the last subscript in the  
> subscripted array, the last element is selected. This clipping of out of  
> bounds elements can be disabled within a routine by using the  
> STRICTARRSUBS option to the COMPILE\_OPT statement. (See the  
> documentation for `COMPILE_OPT` in the IDL Reference Guide manual for  
> details.) If STRICTARRSUBS is in force, then array subscripts that refer  
> to out of bounds elements will instead cause IDL to issue an error and  
> stop execution, just as an outof-range scalar subscript does.

Whoa. Is there some, umm, logic behind this?

Matt Feinstein

--

There is no virtue in believing something that can be proved to be true.

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Subject: Re: Can somebody explain this?

Posted by [K. Bowman](#) on Thu, 16 Sep 2004 14:42:54 GMT

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In article <41499b92\$1@x-privat.org>,  
"sandrokan" <mura@remove.ifs.rm.cnr.it> wrote:

> Thank you. At least, it is reported somewhere; anyway, I find it quite  
> dangerous to introduce  
> such a feature for array subscripting and not for scalars.

Well, like a number of IDL features, it is handy if you know about it,  
dangerous if you don't. ;-)

> It is similar to  
> permit "for" loops for  
> not-integer values without accuracy....  
> for i=0., 10, .1 do print, i  
>  
> .....  
>  
> 7.70000  
>  
> 7.79999

My advice to students is simple: understand roundoff error and don't index loops with FLOATs unless you know *\*exactly\** what you are doing.

Ken

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Subject: Re: Can somebody explain this?

Posted by [Craig Markwardt](#) on Thu, 16 Sep 2004 14:46:40 GMT

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Matt Feinstein <nospam@here.com> writes:

> On Thu, 16 Sep 2004 08:16:57 -0500, Kenneth Bowman  
> <k-bowman@null.tamu.edu> wrote:  
>  
>  
>>  
>> This is an obscure feature of using arrays as subscripts. See Building  
>> IDL Applications, p 133.  
...  
>  
> Whoa. Is there some, umm, logic behind this?

Yeah, crazy mountain-man logic.

My guess is that this is an IDL 1.0 "wouldn't it be cool if" feature, but it is really a dangerous feature that open to accidental abuse.

The wouldn't it be cool aspect is that when one is using the list form of indexing as a 1D lookup table, IDL's behavior automatically does cropping to the table boundaries. Of course, not everybody has 1D lookup tables, and not everybody wants the cropping behavior.

Craig

--

-----  
Craig B. Markwardt, Ph.D.    EMAIL: [craigmnet@REMOVEcow.physics.wisc.edu](mailto:craigmnet@REMOVEcow.physics.wisc.edu)  
Astrophysics, IDL, Finance, Derivatives | Remove "net" for better response  
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Subject: Re: Can somebody explain this?

Posted by [sandrokan](#) on Thu, 16 Sep 2004 18:09:42 GMT

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> Well, like a number of IDL features, it is handy if you know about it,  
> dangerous if you don't. ;-)  
Thank you, but if this answer has come from any help desk, I would find it extremely unsatisfying :-(. I know less than 1% of the fortran or Matlab (4 example) features, but it never happened to spend so much time searching for a code bug.

If any behaviour is a "feature", what can cosidered a "reported bug"?

> My advice to students is simple: understand roundoff error and don't ...  
Yes, it was an example. The next in the list is: print, "777" ...

Ciao

Ale

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Subject: Re: Can somebody explain this?  
Posted by [James Kuyper](#) on Thu, 16 Sep 2004 18:32:13 GMT  
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sandrokan wrote:

...

> If any behaviour is a "feature", what can cosidered a "reported bug"?

When a system has been deliberately designed to provide the feature, because of someone's belief that it's a desireable feature, and that feature is documented, then it's not a bug.

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Subject: Re: Can somebody explain this?  
Posted by [K. Bowman](#) on Thu, 16 Sep 2004 19:36:59 GMT  
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In article <cickt1\$2po\$1@canarie.caspar.it>,  
"sandrokan" <mura@remove.ifs.rm.cnr.it> wrote:

>> Well, like a number of IDL features, it is handy if you know about it,  
>> dangerous if you don't. ;-)  
> Thank you, but if this answer has come from any help desk, I would find  
> it extremely unsatisfying :-(.

This is more like the helpless desk. ;-)

Ken

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Subject: Re: Can somebody explain this?  
Posted by [Mark Hadfield](#) on Fri, 17 Sep 2004 00:04:56 GMT  
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sandrokan wrote:

> Thank you, but if this answer has come from any help desk, I would find  
> it extremely unsatisfying

Well to be fair to RSI, they \*have\* provided an option to disable this feature/oddity. What they're saying is "Yes, we did think it was a cool idea at the time, but now we think you shouldn't use it. To avoid breaking existing code, we're not going to remove it, but we're going to let users disable it in new code." Well, they don't actually say that in the documentation, but it's there between the lines. Pretty reasonable IMHO.

Me, I put these declarations in all my code:

```
compile_opt DEFINT32
compile_opt STRICTARR
compile_opt STRICTARRSUBS
compile_opt LOGICAL_PREDICATE
```

--

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

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Subject: Re: Can somebody explain this?  
Posted by [sandrokan](#) on Fri, 17 Sep 2004 05:57:40 GMT  
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> This is more like the helpless desk. ;-)  
>  
> Ken

LOL. Thank you Ken, and everybody.

Ciao,

Alessandro

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Subject: Re: Can somebody explain this?  
Posted by [sandrokan](#) on Fri, 17 Sep 2004 06:06:57 GMT

"Mark Hadfield" <m.hadfield@niwa.co.nz> ha scritto nel messaggio  
news:cid9nd\$6g5

>> Thank you, but if this answer has come from any help desk, I would find  
>> it extremely unsatisfying...

>

> str="Well to be fair to RSI, they \*have\* provided an option to disable  
this"

```
print, strmid(str,0,strpos(str, 'option')-2)+' patch :-)' ;
```

Ok, just jocking. Thank you for your code lines, I will follow your  
suggestion.

Ale

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