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Subject: Re: Operator precedence flipflop?

Posted by [Lajos Foldy](#) on Sat, 02 Jun 2012 15:02:41 GMT

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On Saturday, June 2, 2012 12:23:48 AM UTC+2, Paulo Penteadó wrote:

> Recently a user called my attention to some old and well-used software  
> (for the FUSE space telescope) that apparently got broken. As she  
> tracked it down, the problem was occurring when accessing an array  
> pointed to by a structure element. This recreates the problem, IDL  
> 8.0.1 and 8.1:

>  
> IDL Version 8.1 (linux x86\_64 m64). (c) 2011, ITT Visual Information  
> Solutions

> IDL> s={str:[ptr\_new(['1','2']),ptr\_new(['a','b'])]}

> IDL> help,s.str

> <Expression> POINTER = Array[2]

> IDL> print,\*(s.str(0))

> 1 2

> IDL> print,\*s.str[0]

> 1 2

>

> So far, so good. But then:

>

> IDL> print,\*s.str(0)

> % Expression must be a scalar in this context: S.

> % Execution halted at: \$MAIN\$

>

> So it seems that \*s.str(0) means (\*s.str)(0), instead of \*(s.str(0)).

>

> But in IDL 7.1.1 and 8.2 it works:

>

> IDL Version 7.1.1 (linux x86\_64 m64). (c) 2009, ITT Visual Information  
> Solutions

> IDL> s={str:[ptr\_new(['1','2']),ptr\_new(['a','b'])]}

> IDL> print,\*s.str(0)

> 1 2

>

> IDL Version 8.2 (linux x86\_64 m64). (c) 2012, Exelis Visual  
> Information Solutions, Inc.

> IDL> s={str:[ptr\_new(['1','2']),ptr\_new(['a','b'])]}

> IDL> print,\*s.str(0)

> 1 2

>

> I know that none of these happen if one uses [] for array indexing, or  
> parentheses to make the operations clear despite operator precedence.

> But this change in behaviour during the 8.0 to 8.1 period breaks old  
> programs, as is the case of the mentioned FUSE software (cf\_edit.pro).

> And I do not remember any information on operator precedence changes

> between versions. It seems it was a bug introduced in 8.0, that was  
> quietly fixed in 8.2.

My guess is that the cause is the dot operator ambiguity introduced in IDL8. Probably `s.str(0)` in `*s.str(0)` is interpreted as a method call for which `s` must be a scalar. But I can not check, I could not find a list of fixed bugs in IDL 8.2.

regards,  
Lajos

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