Subject: Re: assignment inside boolean expression
Posted by promashkin on Mon, 10 Jul 2000 07:00:00 GMT
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I can't see why is this unexpected. Anything in parenthesis gets
processed first, then evaluated. It looks the same as writing IF 1 THEN
... I can't see a source of bugs here, but it sure is possible to make
nested, parenthesized code that no other mind will be able to comprehend.
Cheers,
Pavel

Patrick Broos wrote:
>
> I was wondering if it's common knowlege that one can put an IDL
> assignment inside
> a boolean expression (like in the C language). For example
>
> if (v = 0) then ... assigns v and does not execute the "then"
> statement, while
> if (v = 1) then ... assigns v and does execute the then.
>
> Just as in C I find this leads to really nasty bugs..

Subject: Re: assignment inside boolean expression
Posted by Liam E. Gumley on Mon, 10 Jul 2000 07:00:00 GMT
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"Liam E.Gumley" wrote:
> Enclosing a statement inside parentheses turns it into an expression,

What I meant to say was:

Enclosing an assignment inside parentheses turns it into an expression
(or constant),

etc.

Cheers,
Liam.
http://cimss.ssec.wisc.edu/~gumley

Subject: Re: assignment inside boolean expression
Posted by Liam E. Gumley on Mon, 10 Jul 2000 07:00:00 GMT
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Patrick Broos wrote:
> I was wondering if it's common knowlege that one can put an IDL
> assignment inside
> a boolean expression (like in the C language). For example
>
> if (v = 0) then ... assigns v and does not execute the "then"
> statement, while
> if (v = 1) then ... assigns v and does execute the then.
>
> Just as in C I find this leads to really nasty bugs.

Curious: I've never even considered using this syntax.

Enclosing a statement inside parentheses turns it into an expression,
which has a type and a value, e.g.

```
IDL> help, (v = 100)
<Expression>    INT       =      100
```

The variables in the right hand side of the statement must necessarily
be defined:

```
IDL> help, (zv = tv + vt)
% Variable is undefined: VT.
% Execution halted at:  $MAIN$
```

If you take the following statements:

```
IDL> if (v = 0) then print, 'True'
IDL> help, v
V               INT       =        0

IDL> if (v = 1) then print, 'True'
True
IDL> help, v
V               INT       =        1
```

and remove the parentheses, the equivalent code is

```
IDL> v = 0
IDL> if (v) then print, 'True'
IDL> help, v
V               INT       =        0

IDL> v = 1
IDL> if (v) then print, 'True'
True
IDL> help, v
V               INT       =        1
```

Recall that in IDL, integers with odd non-zero values are Boolean
'True'. Beware of floats and doubles though, where any non-zero value is
Boolean 'True'.

Cheers,
Liam.
http://cimss.ssec.wisc.edu/~gumley

Subject: Re: assignment inside boolean expression
Posted by Jeffrey Jones on Tue, 11 Jul 2000 07:00:00 GMT
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In article <396A3790.43C8EB31@astro.psu.edu>, Patrick Broos
<patb@astro.psu.edu> wrote:

> I was wondering if it's common knowlege that one can put an IDL
> assignment inside
> a boolean expression (like in the C language). For example
>
> if (v = 0) then ... assigns v and does not execute the "then"
> statement, while
> if (v = 1) then ... assigns v and does execute the then.
>
> Just as in C I find this leads to really nasty bugs.
>
>
> --
> ========== ========
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>
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> Penn State University
> 525 Davey Lab FAX 814-863-8686
> University Park, PA 16802-6305
> http://www.astro.psu.edu Group office 863-9550
> ========== ========
>
>
>

The analogy with C only goes so far, it seems.

The following generates a syntax error:

```
x = 0
```

```
  while ((x = x+1) lt 10) do print, x
```

whereas,

```
  x = 10.0
  while (x = x - 1.0) do print, x
```

produces:

```
     9.00000
     8.00000
     7.00000
     6.00000
     5.00000
     4.00000
     3.00000
     2.00000
     1.00000
```

--
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--
Jeff

jajvj@erols.com

Subject: Re: assignment inside boolean expression
Posted by Ben Tupper on Tue, 11 Jul 2000 07:00:00 GMT
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Craig Markwardt wrote:

> Ben Tupper <tupper@seadas.bigelow.org> writes:
>> "Liam E.Gumley" wrote:
>>
>>>
>>> Recall that in IDL, integers with odd non-zero values are Boolean
>>> 'True'. Beware of floats and doubles though, where any non-zero value is

>>> Boolean 'True'.
>>>
>>
>> Dang!
>>
>> I just spent an hour figuring out an efficient way of determining if an
>> integer is odd!
>>
>> I have an IDL function ISODD() for sale... very cheap.   No reasonable
>> offer refused.
>
> Not to undercut you, but will (X AND 1) do the trick?
>

Thanks to Ken and Craig. I think for my purposes the following should suffice (I

guess as long as I make sure that I'm working with an integer/long/byte type.)

```
X = Indgen(6) - 2

For i = 0, N_elements(X)-1 Do $
   If X[i] then Print, X[i], ': Odd' Else print, X[i], ': Even'
```

-2: Even
-1: Odd
0: Even
1: Odd
2: Even
3: Odd

Thanks again,

Ben

--
Ben Tupper

Bigelow Laboratory for Ocean Science
tupper@seadas.bigelow.org

pemaquidriver@tidewater.net

Subject: Re: assignment inside boolean expression
Posted by promashkin on Tue, 11 Jul 2000 07:00:00 GMT
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I might add (X MOD 2) to the bidding...

Cheers,
Pavel

Ben Tupper wrote:
> Dang!
>
> I just spent an hour figuring out an efficient way of determining if an
> integer is odd!
>
> I have an IDL function ISODD() for sale... very cheap. No reasonable
> offer refused.
>
> Ben

Subject: Re: assignment inside boolean expression
Posted by Craig Markwardt on Tue, 11 Jul 2000 07:00:00 GMT
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Ben Tupper <tupper@seadas.bigelow.org> writes:
> "Liam E.Gumley" wrote:
>
>>
>> Recall that in IDL, integers with odd non-zero values are Boolean
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> integer is odd!
>
> I have an IDL function ISODD() for sale... very cheap. No reasonable
> offer refused.

Not to undercut you, but will (X AND 1) do the trick?

Craig

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

Subject: Re: assignment inside boolean expression
Posted by K. Bowman on Tue, 11 Jul 2000 07:00:00 GMT
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In article <396B18EE.DC2E38DD@seadas.bigelow.org>, Ben Tupper
<tupper@seadas.bigelow.org> wrote:

> I just spent an hour figuring out an efficient way of determining if an
> integer is odd!

IF ((ABS(i) MOD 2L) EQ 1L) THEN ... it's odd.

Ken

Subject: Re: assignment inside boolean expression
Posted by Ben Tupper on Tue, 11 Jul 2000 07:00:00 GMT
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"Liam E.Gumley" wrote:

>
> Recall that in IDL, integers with odd non-zero values are Boolean
> 'True'. Beware of floats and doubles though, where any non-zero value is
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>

Dang!

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offer refused.

Ben

--
Ben Tupper

Bigelow Laboratory for Ocean Science
tupper@seadas.bigelow.org

pemaquidriver@tidewater.net
