Subject: Re: Logical operators
Posted by Phillip Bitzer on Mon, 14 Nov 2016 03:05:42 GMT
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On Sunday, November 13, 2016 at 8:30:50 AM UTC-6, Glan wrote:
> Hi
> I am trying to do
> if(((a gt 50) and (b lt 50)) or ((a lt 50) and (b gt 50)) then begin
> c=! NANQ
>
> ...but the multiplie logical operator not working.
> Can you help
> GlanPlon

First, and just to clarify for others, "and" and "or" or not, strictly speaking, logical operators (&&, ||). They are bitwise. Here, they essentially work the same as the logical ops, since the result of the relational operators (lt,gt, etc.) lead to ones or zeros. But, the logical operators have the added benefit of "short-circuiting," so that 1 || _some_expression is true, without evaluating _some_expression. Similarly, 0 && _some_expression is false, without evaluating _some_expression.

With that said, a simple test shows the code does not always evaluate to true:

```
IDL> a = 0 & b=0
IDL> (  (a gt 50) and ( b lt 50) ) or ((a lt 50) and ( b gt 50))
   0
IDL> a = 0 & b=51
IDL> (  (a gt 50) and ( b lt 50) ) or ((a lt 50) and ( b gt 50))
   1
IDL> a = 51 & b=0
IDL> (  (a gt 50) and ( b lt 50) ) or ((a lt 50) and ( b gt 50))
   1
IDL> a = 51 & b=51
IDL> (  (a gt 50) and ( b lt 50) ) or ((a lt 50) and ( b gt 50))
   0
```

(Your code seems to be missing a parentheses, BTW.)