Subject: Re: Interesting WHERE function gotcha
Posted by Craig Markwardt on Fri, 07 Feb 2003 02:35:31 GMT
View Forum Message <> Reply to Message

David Fanning <david@dfanning.com> writes:

```
>
>  How about this:
>
>     Help, veggie_letter, letter
>        VEGGIE_LETTER   BYTE      = Array[4]
>        LETTER          BYTE      = Array[1]
>
>  "LETTER, a byte *array*!? You don't suppose..." Try this:
>
>     index = WHERE( (Byte(array))[0,*] EQ (Byte('a'))[0], count)
>     Print, count
>        2
>
>  Hummm. V-e-r-y interesting...
>
>  Now I know how to fix the problem, but I don't know exactly
>  what the problem is. (Although this is not so different
>  from most computer problems, when you come to think of it.)
>  Is the problem that the BYTE function always makes a byte
>  *array* when extracting string arguments? Or is it that
>  the WHERE function acts in a, uh, non-intuitive way when
>  there are two vectors in a boolean expression?
```

Hi David!

You are being bitten by the "feature" that I love so much. Namely
that in IDL, when you do "X OPERATION Y", and X and Y are both arrays,
then the expression is trimmed to the smaller of the two arrays.

So it's not anything special regarding WHERE, or boolean expressions,
but rather that VEGGIE_LETTER EQ LETTER evaluates to a 1-element
array. One element, because LETTER only has one element:

```
  IDL> help, veggie_letter EQ letter
  <Expression>    BYTE      = Array[1]
```

There are many times that I wish that IDL has an easier way to get the
ASCII value of a character.

By the way, why not do this instead?

```
  index = where( strmid(array,0,1) EQ 'a')
```

This avoids the whole issue of converting to a different
representation, and it just looks less gobbledygooky.

Happy guacamole,
Craig

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