
Subject: Re: Not where

Posted by Liam E. Gumley on Mon, 07 Feb 2000 08:00:00 GMT

[View Forum Message](#) <> [Reply to Message](#)

Kenneth P. Bowman <bowman@null.edu> wrote in message

news:bowman-0702000905130001@bowman.tamu.edu...

> I often find myself using WHERE to divide an array into two parts. I do

> one operation on the first part and a different operation on the second

> part.

>

> It would be nice to have an auxiliary array containing all the indices

> that are *not* returned by WHERE in i. For example, it would be nice to

> do

>

> a = FLTARR(...)

> i = WHERE((a...), count, NOT_WHERE = j, NOT_COUNT = not_count)

> IF (count GT 0L) THEN a[i] = ...

> IF (not_count GT 0L) THEN a[j] = ...

>

> Lacking the above changes to WHERE, can anyone suggest a fast and easy way

> to get j=NOT(i) ?

Strange: I was just thinking about this last week. The following approach is easy, but costs two WHEREs:

First, create an array of Boolean operator results (0=false, 1=true):

```
arr = indgen(10)
test = arr gt 5
print, test
 0 0 0 0 0 0 1 1 1 1
```

Then use WHERE to locate the true and false values:

```
true_index = where(test ne 0, true_count)
false_index = where(test eq 0, false_count)
help, true_count, false_count
TRUE_COUNT    LONG    =      4
FALSE_COUNT   LONG    =      6
print, true_index
  6      7      8      9
print, false_index
  0      1      2      3      4      5
```

To implement this as a WHERE-like function:

```
FUNCTION MYWHERE, TEST, TRUE_COUNT, $
  FALSE_INDEX=FALSE_INDEX, FALSE_COUNT=FALSE_COUNT
```

```
if (n_elements(test) eq 0) then message, 'Argument TEST is undefined'  
true_index = where(test ne 0, true_count)  
if arg_present(false_index) or arg_present(false_count) then $  
    false_index = where(test eq 0, false_count)  
return, true_index  
END  
  
true_index = mywhere(arr gt 5, true_count)  
print, true_count, true_index  
        4  
        6      7      8      9  
true_index = mywhere(arr gt 5, true_count, $  
    false_index=false_index, false_count=false_count)  
IDL> print, false_count, false_index  
        6  
        0      1      2      3      4      5
```

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