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Subject: Re: Not where

Posted by [Liam E. Gumley](#) on Mon, 07 Feb 2000 08:00:00 GMT

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Kenneth P. Bowman <[bowman@null.edu](mailto:b 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>

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