
Subject: Re: using WHERE to search for multiple values
Posted by [Robert Stockwell](#) on Fri, 26 Apr 2002 00:05:55 GMT
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Doug Martin wrote:

```
> I'm trying to do something like the following:
>
> w=where(im eq val)
>
> with im a byte array (say, 640x480)
> and val an array (say, 10 to 40 long)
>
> I want to find where im is equal to any of the values in val. But,
> val is not always the same size.
>
> Is there a way to do this using one WHERE call? There seems to be a
> giant time difference between:
>
> for i=0,(size(val))[1]-1 do begin
>   w=where(im eq val(i))
>   ...
> endfor
>
> and
>
> w=where(im eq val(0) or val(1) or val(2) or ...)
>
> (but I can't do the above since val has different sizes from call to
> call)
>
>
> Sorry for the run-on nature of this post.
>
> Thanks,
> Doug
>
```

Hi Doug,
how about using an execute statement to call the where() a la

```
for i = 0,n_elements(val) do valstring = valstring + 'or val('+string(i)+')'
r = execute( 'w=where(im eq' + valstring+')')
```

should be ok unless there are a lot of vals.

cheers
bob

PS YAY, two execute() posts in one day.

Subject: Re: using WHERE to search for multiple values
Posted by [James Kuyper](#) on Fri, 26 Apr 2002 12:15:46 GMT
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> call)
```

```
mask = where(im ne im)
for i=0, count=(size(val))[1]-1 do begin
  mask = mask OR (im eq val[i])
endfor
w = where(mask)
```

Subject: Re: using WHERE to search for multiple values
Posted by [Paul Van Delst\[1\]](#) on Fri, 26 Apr 2002 13:08:53 GMT
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Doug Martin wrote:

```
>
```

```

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> endfor

```

why not do it using the loop but using the COMPLEMENT keyword to WHERE so that subsequent searches don't search the values of IM that you've already matched to the previous VAL(i)? Each subsequent search will be on a smaller part of the IM array.

Of course:

- a) you will have to reconstruct the index values to reflect their IM index rather than their IM(complement) indices and
- b) this may be even slower if the values you're looking for are randomly distributed throughout the array (i.e. searching an array that is increasingly non-contiguous in memory). You're arrays aren't that large tho'.

paulv

--

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Subject: Re: using WHERE to search for multiple values
 Posted by [Jonathan Joseph](#) on Fri, 26 Apr 2002 15:31:15 GMT
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```

> w=where(im eq val(0) or val(1) or val(2) or ...)

```

Um, Wouldn't line line have to look more like this to work? :

```

w = where (im eq val(0) or im eq val(1) or im eq ...)

```

-Jonathan

Subject: Re: using WHERE to search for multiple values
Posted by [Pavel A. Romashkin](#) on Fri, 26 Apr 2002 16:05:01 GMT
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Oh boy. It looks to me that the poster in fact wanted to avoid looping through every element of the array.
Why not try SET_INTERSECTION or what is it called, from David's web site? The one, real fast, that uses HISTOGRAM?
No loops at all. And you can get either the elements that match or the indices.
Good luck,
Pavel

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