
Subject: Re: Removing specific elements in an array
Posted by [Michael Galloy](#) on Tue, 27 Jun 2017 21:32:40 GMT
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On 6/27/17 2:17 PM, thtran296@gmail.com wrote:

```
> Hello everybody,  
> So I have an array that looks like this:  
> x = [4,5,17,18,30,38,50,51,70]  
>  
> The goal is to get rid of the element that is only 1 unit larger than the previous one.  
> The ideal output should look like:  
> x = [4,17,30,38,50,70]      (since 5,18, and 51 are deleted)  
>  
> I have tried all sorts of loops but it is not working. Here's my own attempt.  
> y = [4,5,8,15,30,31,45,70]  
> y2 = [y,0]  
> for i = 0,6 do begin  
>   if y2(i) ne 0 then begin  
>     if y2(i+1) - y2(i) le 1 then begin  
>       remove, i, y  
>     endif  
>   endif  
> endfor  
>  
> Please help. I appreciate it.  
>
```

How about this?

```
IDL> x = [4, 5, 17, 18, 30, 38, 50, 51, 70]  
IDL> remove_ind = where(x[1:*] - x[0:-2] eq 1, count) + 1L  
IDL> keep_ind = mg_complement(remove_ind, n_elements(x))  
IDL> print, remove_ind  
      1      3      7  
IDL> print, keep_ind  
      0      2      4      5      6      8  
IDL> print, x[remove_ind]  
      5     18     51  
IDL> print, x[keep_ind]  
      4     17     30     38     50     70
```

MG_COMPLEMENT is available here:

https://github.com/mgalloy/mglib/blob/master/src/indices/mg_complement.pro

But it is fairly short:

```
function mg_complement, indices, n, count=ncomplement
  compile_opt strictarr, strictarrsubs

  all = bytarr(n)
  valid_indices = where(indices ge 0 and indices lt n, n_valid)
  if (n_valid gt 0L) then all[indices[valid_indices]] = 1B
  return, where(all eq 0B, ncomplement)
end
```

Mike

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Modern IDL: A Guide to IDL Programming (<http://modernidl.idldev.com>)
