
Subject: Re: The intersection of 2 arrays

Posted by [David Foster](#) on Mon, 03 Mar 1997 08:00:00 GMT

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Phil Williams wrote:

>
> I know that I can find the union of two arrays by doing something like
>
> temp = [array1, array2]
> union = temp(uniq(temp, sort(temp)))
>
> But how would I go about finding the intersection of the two arrays?
> i.e. Is there a nice vector way of doing it rather than brute force?
> (aka: Which IDL function did I miss this time?)

By brute force, do you mean something like:

```
temp = [ array1(uniq(array1,sort(array1))), $  
        array2(uniq(array2,sort(array2))) ]  
temp = temp( sort(temp) )  
inter = temp(where( temp eq shift(temp,1)))
```

If someone has a better/faster method please share it!

Dave

PS>

I've written a `FIND_ELEMENTS.PRO` that returns subscripts of elements in one array that are found in another array, like:

```
ind = Find_Elements(Array, Tofind [, Adjust_array])
```

This searches Array for values in Tofind, returning the subscripts of Array for those values found. The optional argument Adjust_array contains the same number of elements as Tofind, and is a way of allowing you to adjust the elements of Array (the values of Adjust_array and Tofind correspond). We use this for finding and adjusting Regions-of-Interest in images which have a limited number of discrete values. It uses a loop to search Array for each value of Tofind, so it's not real fast for large search arrays. [If anyone has an array-oriented method I'd love to see it!!]

If anyone would find this useful let me know (email).

Dave

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