
Subject: Re: Select values from one array that match multiple values from an other array

Posted by [David Fanning](#) on Fri, 30 Nov 2012 15:31:20 GMT

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PMagdon writes:

> I tried to use WHERE for multiple comparisons of two arrays.
>
> Here is a minimal example:
>
> 1.) Two arrays
>
> A=[1,3,2,5,2,6,1,9]
> B=[1,5]
>
> 2.) I need to extract all positions of A where any of the values from B occur in A. So that C
should look like this:
>
> C=[0,3,6]
>
> So far I tested
> C=WHERE(A EQ B) but this doesn't work.
>
> Any ideas how to solve that without looping over B?

c = SetIntersection(a, b)

http://www.idlcoyote.com/tips/set_operations.html

Cheers,

David

--

David Fanning, Ph.D.

Fanning Software Consulting, Inc.

Coyote's Guide to IDL Programming: <http://www.dfanning.com/>

Sepore ma de ni thue. ("Perhaps thou speakest truth.")

Subject: Re: Select values from one array that match multiple values from an other array

Posted by [David Fanning](#) on Fri, 30 Nov 2012 15:36:26 GMT

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David Fanning writes:

```
>
> PMagdon writes:
>
>> I tried to use WHERE for multiple comparisons of two arrays.
>>
>> Here is a minimal example:
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>> C=WHERE(A EQ B) but this doesn't work.
>>
>> Any ideas how to solve that without looping over B?
>
> c = SetIntersection(a, b)
>
> http://www.idlcoyote.com/tips/set\_operations.html
```

Whoops! You wanted positions. Nevermind. :-)

Cheers,

David

--
David Fanning, Ph.D.
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Subject: Re: Select values from one array that match multiple values from an other array

Posted by [David Fanning](#) on Fri, 30 Nov 2012 15:57:39 GMT

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David Fanning writes:

> Whoops! You wanted positions. Nevermind. :-)

OK, I just added a POSITIONS keyword to SetIntersection that will return the positions in vector A where the values in vector B appear.

```
A=[1,3,2,5,2,6,1,9]
B=[1,5]
C = SetIntersection(a, b, Positions=pos)
Print, pos
      0      6      3
```

You can find the new program here:

<http://www.idlcoyote.com/programs/setintersection.pro>

Cheers,

David

--

David Fanning, Ph.D.

Fanning Software Consulting, Inc.

Coyote's Guide to IDL Programming: <http://www.dfanning.com/>

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Subject: Re: Select values from one array that match multiple values from an other array

Posted by [PMagdon](#) on Fri, 30 Nov 2012 16:13:05 GMT

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Thanks a lot David for providing this new extension/keyword of SetIntersections() within minutes!!
I will go for a test as soon as possible.

Cheers Paul

Subject: Re: Select values from one array that match multiple values from an other array

Posted by [David Fanning](#) on Fri, 30 Nov 2012 16:22:12 GMT

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PMagdon writes:

> Thanks a lot David for providing this new extension/keyword of SetIntersections() within minutes!!

All part of the Coyote Graphics service! ;-)

Cheers,

David

--

David Fanning, Ph.D.

Fanning Software Consulting, Inc.

Coyote's Guide to IDL Programming: <http://www.dfanning.com/>

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Subject: Re: Select values from one array that match multiple values from an other array

Posted by [Craig Markwardt](#) on Fri, 30 Nov 2012 16:32:04 GMT

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Y

On Friday, November 30, 2012 10:15:28 AM UTC-5, PMagdon wrote:

> Dear all,

>

> I tried to use WHERE for multiple comparisons of two arrays.

>

> Here is a minimal example:

> 1.) Two arrays

> A=[1,3,2,5,2,6,1,9]

> B=[1,5]

> 2.) I need to extract all positions of A where any of the values from B occur in A. So that C should look like this:

> C=[0,3,6]

You can also try MATCH2 from the IDL astronomy library.

<http://idlastro.gsfc.nasa.gov/ftp/pro/misc/match2.pro>

This routine tells you which item in B matches A as well.

For example,

```
match2, a, b, suba
```

```
;; ---> [0L,-1L,-1L,1L,-1L,-1L,0L,-1L]
```

```
;;    0  1  2  3  4  5  6  7
```

indicates that A[0] matches B[0], A[3] matches B[1], and A[6] matches B[0]. You didn't actually ask for this level of information, but you can get what you want by using WHERE(SUBA GE 0).

Craig

Subject: Re: Select values from one array that match multiple values from an other array

Posted by [David Fanning](#) on Thu, 13 Dec 2012 16:35:28 GMT

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David Fanning writes:

```
> OK, I just added a POSITIONS keyword to SetIntersection
> that will return the positions in vector A where the
> values in vector B appear.
>
> A=[1,3,2,5,2,6,1,9]
> B=[1,5]
> C = SetIntersection(a, b, Positions=pos)
> Print, pos
>      0      6      3
```

At Bob Stockwell's suggestion (and with his code!) I have added the keywords INDICES_A and INDICES_B to this program to allow you to return the matching indices in BOTH vectors. Note that this assumes the vectors A and B contain *unique* values. In other words, INDICES_A and POSITIONS are identical vectors IF vector A and B contain unique values. If they don't, then POSITIONS will contain ALL of the locations in vector A where the match occurs.

You can find the updated program here:

<http://www.idlcoyote.com/programs/setintersection.pro>

Cheers,

David

--

David Fanning, Ph.D.

Fanning Software Consulting, Inc.

Coyote's Guide to IDL Programming: <http://www.idlcoyote.com/>

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