Subject: Re: How to find second minimum elements in an array in IDL?
Posted by David Fanning on Wed, 14 Jan 2009 15:31:53 GMT

Hu writes:

> Supposing that there is an array X=[9,2,3,5,1,6,8,4,7], how can I find
> the first and second minimums (in this array are elements 1 and 2) in
> this vector?
>
> I use this to find the first minimum (element 1):
>
> index = where(X eq min(X))
> minimum_first=X[index]
>
> But, how can i find the elements 2 ?

Set the first minimum elements to some absurdly large
value and give it another try. :-)

Cheers,

David

--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.dfanning.com/
Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Subject: Re: How to find second minimum elements in an array in IDL?
Posted by Brian Larsen on Wed, 14 Jan 2009 15:38:16 GMT

or something like,
IDL> X=[9,2,3,5,1,6,8,4,7]
IDL> ind1 = where(X eq min(X), comp=comp)
IDL> ind2 = where(x[comp] eq min(x[comp]))
IDL> print, x[ind1], x[ind2]
       1
       2

be VERY careful that ind2 is referring to the array x[comp] NOT the
array x.

Or one could use sort to find the value:
IDL> xs=x[sort(x)]

```
IDL> xu=uniq(xs)
% Compiled module: UNIQ.
IDL> ind=where(xu eq 1)
IDL> print, xu[1]
       1
```

and there where to find the index of the value in x

Cheers,

Brian

 --- -------------
Brian Larsen
Boston University
Center for Space Physics
http://people.bu.edu/balarsen/Home/IDL

Subject: Re: How to find second minimum elements in an array in IDL?
Posted by Hu on Wed, 14 Jan 2009 15:41:00 GMT
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On Jan 14, 10:31 am, David Fanning <n...@dfanning.com> wrote:
> Hu writes:
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> Cheers,
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> David
>
> --
> David Fanning, Ph.D.
> Fanning Software Consulting, Inc.
> Coyote's Guide to IDL Programming:http://www.dfanning.com/

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

thank you, David ! It works!
I surf your website everyday.

Subject: Re: How to find second minimum elements in an array in IDL?
Posted by Brian Larsen on Wed, 14 Jan 2009 15:41:01 GMT

> Or one could use sort to find the value:
> IDL> xs=x[sort(x)]
> IDL> xu=uniq(xs)
> % Compiled module: UNIQ.
> IDL> ind=where(xu eq 1)
> IDL> print, xu[1]
>   1

Oops amend this, I got the uniq output wrong in my head, the second
minimum is xu[1] and first is xu[0]

Brian

 -- --------------
Brian Larsen
Boston University
Center for Space Physics
http://people.bu.edu/balarsen/Home/IDL

Subject: Re: How to find second minimum elements in an array in IDL?
Posted by Carsten Lechte on Wed, 14 Jan 2009 15:45:09 GMT

Hu wrote:
> index = where(X eq min(X))
> minimum_first=X[index]

You can do

minimum_first = MIN(X, index)

which may be faster.

chl