Subject: what is the highest subscript in the array?!?
Posted by munka on Fri, 07 May 2010 02:12:13 GMT
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Hello team,

I find myself wanting to use the highest subscript in an array and coding "flux[n_elements(flux)-1]"... I seem to remember seeing a shortcut on here, and I can't remember what it is.

It's irrelevant, but here is where I most recently used this. This finds the local maximum in an array.
index=where(flux eq max(flux) and flux ne flux[0] and flux ne flux[n_elements(flux)-1],ct)

Thanks in advance,

~Bill

PS: Right before I posted this, I searched and I figured that array[[-1]] should return the highest array value... but it doesn't, and I'm still stumped.

```
IDL> array=indgen(10)
IDL> print,array[0]
       0
IDL> print,array[9]
       9
IDL> print,array[10]
% Attempt to subscript ARRAY with <INT      (      10)> is out of
range.
% Execution halted at: $MAIN$
IDL> print,array[[10]]
       9
IDL> print,array[[-1]]
       0
IDL> print,array[[-2]]
       0
IDL>
```

Subject: Re: what is the highest subscript in the array?!?
Posted by R.G.Stockwell on Fri, 07 May 2010 05:39:37 GMT
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"Michael Galloy" <mgalloy@gmail.com> wrote in message news:hs0518$97o$1@speranza.aioe.org...

> On 5/6/10 8:44 pm, munka wrote:
>
> [snipped]
>
>> Also, clicking on your signature link brings me to "http://
>> www.google.com/www.michaelgalloy.com" :\
>
> Not sure what Google is doing there; it works fine in my newsreader, but
> Google Groups is doing something funky.

that may just be the default action for the poster's browser setup
(i.e. to send a linked string from another program into google).

i assure you: www.google.com/www.michaelgalloy.com does not exist.

Google
Error
Not Found
The requested URL /www.michaelgalloy.com was not found on this server.

I actually get that sometime (strangely enough) if I click a link that
is not found (wireless network lost or whatever), where the secondary
action is to try to fire the string off to a google search.

cheers,
bob

Subject: Re: what is the highest subscript in the array?!?
Posted by Carsten Lechte on Fri, 07 May 2010 09:34:48 GMT
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munka wrote:
> IDL> array=indgen(10)
[...]
> IDL> print,array[[10]]
> 9

Well, your could use lasti = [92233720368547758O7LL] to define an "index"
that will give you the last array element in most cases.
(Until someone sets COMPILE_OPT STRICTARRSUBS, at least)

IDL> print, array[lasti]
 9

And possibly, God kills a kitten everytime someone uses this abomination.

chl

Subject: Re: what is the highest subscript in the array?!?
Posted by wlandsman on Fri, 07 May 2010 10:20:09 GMT
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On May 6, 10:12 pm, munka <mynameismu...@gmail.com> wrote:

> It's irrelevant, but here is where I most recently used this. This
> finds the local maximum in an array.
> index=where(flux eq max(flux) and flux ne flux[0] and flux ne
> flux[n_elements(flux)-1],ct)
>

Not relevant to your main question, but if you care about speed and
have more than 2 elements than it is faster to write (not tested)

dum = max(flux[1:N_elements(flux)-1], c) & index = c+1

--Wayne

Subject: Re: what is the highest subscript in the array?!?
Posted by wlandsman on Fri, 07 May 2010 10:35:23 GMT
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On May 7, 6:20 am, wlandsman <wlands...@gmail.com> wrote:

>
> Not relevant to your main question, but if you care about speed and
> have more than 2 elements than it is faster to write (not tested)
>
> dum = max(flux[1:N_elements(flux)-1], c) & index = c+1
>

Sorry, that should be

dum = max(flux[1:N_elements(flux)-2], c) & index = c+1

Subject: Re: what is the highest subscript in the array?!?
Posted by eddie on Fri, 07 May 2010 15:37:40 GMT
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> PS: Right before I posted this, I searched and I figured that
> array[[-1]] should return the highest array value... but it doesn't,
> and I'm still stumped.

Add a 'u' and it should. A negative unsigned number "wraps" to produce a large number.

```
IDL> array = indgen(10)
IDL> print,array[[-1u]]
      9
```

This is similar to Carsten's huge number as an index. You can use array[[-1ull]] if you are concerned that your array might have more than a gajillion elements.

Unfortunately this trick only works for the last element, array[[-2u]] still returns the last element of the array, not the second to last.

Cheers,
eddie

Subject: Re: what is the highest subscript in the array?!?
Posted by munka on Fri, 07 May 2010 18:46:55 GMT
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> On May 7, 6:20 am, wlandsman <wlands...@gmail.com> wrote:
> Sorry, that should be
>
> dum = max(flux[1:N_elements(flux)-2], c) & index = c+1

That still does not return the LOCAL maximum. If the max is on the edge, it will still return a value

```
IDL> flux=findgen(10)
IDL> print,flux
     0.00000      1.00000      2.00000      3.00000      4.00000
5.00000
     6.00000      7.00000      8.00000      9.00000
IDL> print,max(flux)
     9.00000
IDL> print,max(flux[1:N_elements(flux)-2], c)
     8.00000
IDL> print,c+1
         8
```

Subject: Re: what is the highest subscript in the array?!?
Posted by munka on Fri, 07 May 2010 18:51:55 GMT
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On May 7, 10:37 am, eddie <eha...@gmail.com> wrote:
>> PS: Right before I posted this, I searched and I figured that
>> array[[-1]] should return the highest array value... but it doesn't,
>> and I'm still stumped.
>
> Add a 'u' and it should. A negative unsigned number "wraps" to
> produce a large number.
>
> IDL> array = indgen(10)
> IDL> print,array[[-1u]]
> 9
> This is similar to Carsten's huge number as an index. You can use
> array[[-1ull]] if you are concerned that your array might have more
> than a gajillion elements.
>
> Unfortunately this trick only works for the last element, array[[-2u]]
> still returns the last element of the array, not the second to last.
>
> Cheers,
> eddie

IDL> flux=findgen(10)
IDL> print,flux
0.00000 1.00000 2.00000 3.00000 4.00000
5.00000
6.00000 7.00000 8.00000 9.00000
IDL> print,flux[[-1u]]
9.00000
IDL> print,flux[5:*]
5.00000 6.00000 7.00000 8.00000 9.00000

Yes! The -1u works! I think I remembered the "trick" that I was originally thinking of. It doesn't do what I want it to do, but the [[-1u]] works!

Thanks for the responses!
~Bill

Subject: Re: what is the highest subscript in the array?!?
Posted by penteado on Fri, 07 May 2010 19:05:50 GMT
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On May 7, 3:46 pm, munka <mynameismu...@gmail.com> wrote:
>> On May 7, 6:20 am, wlandsman <wlands...@gmail.com> wrote:
>> Sorry, that should be
>
>> dum = max(flux[1:N_elements(flux)-2], c) & index = c+1
>
> That still does not return the LOCAL maximum. If the max is on the
> edge, it will still return a value
>
> IDL> flux=findgen(10)
> IDL> print,flux
> 0.00000 1.00000 2.00000 3.00000 4.00000
> 5.00000
> 6.00000 7.00000 8.00000 9.00000
> IDL> print,max(flux)
> 9.00000
> IDL> print,max(flux[1:N_elements(flux)-2], c)
> 8.00000
> IDL> print,c+1
> 8

Could do something like

nflux=n_elements(flux)
local_maxima=where((flux[1:nflux-2] ge flux[2:nflux-1]) and
(flux[1:nflux-2] ge flux[0:nflux-3]))+1

That would give the indexes of all points that are local maxima,
defined as those larger than or equal to their immediate neighbors.
Then max() or histogram() may be used to pick the highest maxima,
depending on what is wanted.

Subject: Re: what is the highest subscript in the array?!?
Posted by munka on Sat, 08 May 2010 02:09:23 GMT
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On May 7, 2:05 pm, pp <pp.pente...@gmail.com> wrote:
>
> Could do something like
>
> nflux=n_elements(flux)
> local_maxima=where((flux[1:nflux-2] ge flux[2:nflux-1]) and
> (flux[1:nflux-2] ge flux[0:nflux-3]))+1

>
> That would give the indexes of all points that are local maxima,
> defined as those larger than or equal to their immediate neighbors.
> Then max() or histogram() may be used to pick the highest maxima,
> depending on what is wanted.

Oh yeah! Is there an easy way to increase the "window" range from
just the points next to the point in question to some larger range?

Subject: Re: what is the highest subscript in the array?!?
Posted by Giuseppe Papa on Sat, 15 Oct 2011 18:57:01 GMT
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Have no enough money to buy a car? You not have to worry, because it is possible to receive the business loans to resolve such problems. Thus get a secured loan to buy all you want.
