
Subject: Re: extracting values from an array
Posted by [R.G. Stockwell](#) on Wed, 01 Jun 2005 18:58:25 GMT
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"Francois L." <fleduc@lycos.com> wrote in message
news:1117651509.818205@news.drenet.dnd.ca...
> Hello,
>
> Probably a simple question...
>
> I have an array A and I want to extract values greater than -1.
>> A = [2,-1, -1, 3,-1,-1, 4, -1]
>> w = where(a gt -1)
>> if w[0] gt -1 then b = a[w]
>
> Is there a cleaner and faster way to do this ?
>
> Thanks,
>

Hi,

cleaner? I doubt it, I think where() is pretty clean :) and I don't think
writing
two lines of code is being excessively verbose.

faster? you could try a histogram call, with the reverse indices keyword,
since histogram is a magic routine that, when used non-intuitively,
usually leads to superior results. Use 2 bins, -1000 to -1, and 0 to 1000
for
instance, where 1000 is chosen to be larger than any of your data.
This may be less clean than the where() call.

If, however, you are looping through a large number of A vectors,
perhaps you could do a histogram call on all of them (or something like
that).
Or if you are looping over different criteria (gt -1, then gt 1, etc) that
could
be accomplished in one histogram call.

Exactly how big is this A array that you are not satisfied with the speed of
where?

Cheers,
bob

Subject: Re: extracting values from an array
Posted by [Francois L.](#) on Wed, 01 Jun 2005 19:19:09 GMT
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Hello,

Actually I thought maybe there is a shortcut like:
B = A gt -1

But if
A = [2,-1, -1, 3,-1,-1, 4, -1]
the command
B = A gt -1
leads to
B = [1,0,0,1,0,0,1,0]
which this doesn't help me as I want B = [2,3,4]

The array A is never bigger than 50 elements.
So I will keep my three lines of code.

Thank you,

"R.G. Stockwell" <no@email.please> wrote in message
news:6zrne.23\$3A1.1578@news.uswest.net...
> "Francois L." <fleduc@lycos.com> wrote in message
> news:1117651509.818205@news.drenet.dnd.ca...
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> bob
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Subject: Re: extracting values from an array
Posted by [Michael Wallace](#) on Wed, 01 Jun 2005 19:49:07 GMT
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> Actually I thought maybe there is a shortcut like:
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> A = [2,-1, -1, 3,-1,-1, 4, -1]
> the command
> B = A gt -1
> leads to
> B = [1,0,0,1,0,0,1,0]
> which this doesn't help me as I want B = [2,3,4]

In this case, the "a gt -1" returns a boolean value based on whether the expression is true or not. That's why you see the array of only 1 (true) and 0 (false). Also note that whenever you do array operations, your resultant array will be the same size as the input array. You want your output array to be potentially smaller and therefore you need at least one call to a function such as "where" to handle the manipulation.

By the way, the problem you describe is the very reason why where was invented.

If you want something a little cleaner, I'd suggest using the count parameter set by the where command rather than checking if w is -1 or not. I just find this a little easier to read.

```
a = [2,-1, -1, 3,-1,-1, 4, -1]
w = where(a gt -1, count)
if count gt -1 then b = a[w]
```

- > The array A is never bigger than 50 elements.
- > So I will keep my three lines of code.

All of us like to tinker and find some slick way of doing things, but if the code works as it should and there's no real gain to be achieved from optimizing, don't optimize! And never optimize just for the sake of optimization. Profile your code, find the major bottlenecks and optimize those first. Rinse, wash, repeat.

Of course, if you're just tinkering with something, playing around with it to see how it works, optimize the crap out of it. It's a good learning experience. I still have fond memories of taking one of my co-worker's programs and bringing its running time from about 20 minutes down to under a minute and even under 30 seconds in some cases. And I could have taken it down further had I written some DLMS. :-)

-Mike

Subject: Re: extracting values from an array
Posted by [Benjamin Hornberger](#) on Wed, 01 Jun 2005 20:06:05 GMT
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Michael Wallace wrote:

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> a = [2,-1, -1, 3,-1,-1, 4, -1]
> w = where(a gt -1, count)
> if count gt -1 then b = a[w]
>
```

I think you want

```
IF count GT 0 THEN ...
```

Cheers,

Benjamin

Subject: Re: extracting values from an array

Posted by [Michael Wallace](#) on Wed, 01 Jun 2005 20:14:49 GMT

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```
>> a = [2,-1, -1, 3,-1,-1, 4, -1]
>> w = where(a gt -1, count)
>> if count gt -1 then b = a[w]
>>
>
> I think you want
>
> IF count GT 0 THEN ...
```

Oops. You're right. With all the -1's floating about in the example, I just wanted to put -1 everywhere. :-)

-Mike

Subject: Re: extracting values from an array

Posted by [caitouer](#) on Thu, 02 Jun 2005 21:01:51 GMT

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```
I normally do this:
b=a(where(a gt -1))
then b=[2,3,4]
Cheers,
Caitouer
```

Subject: Re: extracting values from an array

Posted by [Kenneth P. Bowman](#) on Fri, 03 Jun 2005 00:32:19 GMT

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In article <1117744798.399372.98360@g14g2000cwa.googlegroups.com>, [caitouer@yahoo.com](#) wrote:

```
> I normally do this:
> b=a(where(a gt -1))
> then b=[2,3,4]
> Cheers,
> Caitouer
>
```

That's OK until WHERE returns a -1 (nothing found). For robust code, check the COUNT values.

Ken Bowman
