Subject: Re: Array element deletion
Posted by Edd Edmondson on Fri, 12 Sep 2003 13:19:03 GMT
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Edd Edmondson <eddedmondson@hotmail.com> wrote:
> Attempts using WHERE() have failed for me* and currently I'm looping
> through the array of indices and deleting them one at a time - which is
> fine when I've only got 20 or 30 of them but I doubt it'll scale well.

... and indeed that method is broken, since everytime I delete an element
the indices of the unwanted ones change....

--
Edd

Subject: Re: Array element deletion
Posted by jjbezair on Fri, 12 Sep 2003 13:27:48 GMT
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In article <bjsh0u$q77$1@news.ox.ac.uk>,
Edd Edmondson <eddedmondson@hotmail.com> wrote:
> Supposing I have a big array and I also have an array containing indices
> of unwanted elements. Is there a neat way of removing those elements from
> the array?
>
> Attempts using WHERE() have failed for me* and currently I'm looping
> through the array of indices and deleting them one at a time - which is
> fine when I've only got 20 or 30 of them but I doubt it'll scale well.
>
>
> * - I tried to make a list of indices that I wanted to keep using
> WHERE(indgen(x) ne unwanted) but that only produces the first
> n_elements(unwanted) of the correct indices.
>
> --
> Edd

I'm sure one or more of the gurus here will have a faster solution that
uses histogram, but I've always used index masks for this sort of thing

indexMask = lonarr(n_elements(bigArray))
indexMask(unwanted) = 1
wanted = where(indexMask == 0)
smallArray = bigArray(wanted)

of course you should check that where returns a nonzero array, etc., and

this method uses 4 times the memory of the original array, but memory is
cheap these days, and these 4 lines of code are quick to type...

I'm curious to see what more efficient techniques other people here use.

regards,
Jeff
--

Subject: Re: Array element deletion
Posted by David Fanning on Fri, 12 Sep 2003 13:31:20 GMT
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Edd Edmondson writes:

> Supposing I have a big array and I also have an array containing indices
> of unwanted elements. Is there a neat way of removing those elements from
> the array?
>
> Attempts using WHERE() have failed for me* and currently I'm looping
> through the array of indices and deleting them one at a time - which is
> fine when I've only got 20 or 30 of them but I doubt it'll scale well.

Here is a function from my web page:

```
FUNCTION SetDifference, a, b

   ; = a and (not b) = elements in A but not in B

mina = Min(a, Max=maxa)
minb = Min(b, Max=maxb)
IF (minb GT maxa) OR (maxb LT mina) THEN RETURN, a ;No intersection...
r = Where((Histogram(a, Min=mina, Max=maxa) NE 0) AND $
         (Histogram(b, Min=mina, Max=maxa) EQ 0), count)
IF count eq 0 THEN RETURN, -1 ELSE RETURN, r + mina
END
```

Here is how it works. Suppose you have an array:

```
   array = [3.5, 4.8, 9.3, 2.1, 7.6, 4.6]
```

And an array of indices you don't want:

```
   bad = [2, 4]
```

You would do this:

```
possible = Indgen(N_Elements(array))
good = SetDifference(possible, bad)
Print, possible
Print, good
newArray = array[good]
Print, newArray
```

You can learn more about these set methods here:

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

Cheers,

David

--
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Coyote's Guide to IDL Programming: http://www.dfanning.com/
Toll-Free IDL Book Orders: 1-888-461-0155

Subject: Re: Array element deletion
Posted by Edd Edmondson on Fri, 12 Sep 2003 13:44:19 GMT
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Excellent, thanks for the speedy response :-)

--
Edd

Subject: Re: Array element deletion
Posted by R.Bauer on Sat, 13 Sep 2003 17:05:20 GMT
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Edd Edmondson wrote:

> Supposing I have a big array and I also have an array containing indices
> of unwanted elements. Is there a neat way of removing those elements from
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>
> Attempts using WHERE() have failed for me* and currently I'm looping
> through the array of indices and deleting them one at a time - which is
> fine when I've only got 20 or 30 of them but I doubt it'll scale well.
>

>
> * - I tried to make a list of indices that I wanted to keep using
> WHERE(indgen(x) ne unwanted) but that only produces the first
> n_elements(unwanted) of the correct indices.
>

Just in addition to Davids answer.

a_not_b
http://www.fz-juelich.de/icg/icg-i/idl_icglib/idl_source/idl _html/dbase/a_not_b_dbase.pro.html

regards
Reimar

--
Forschungszentrum Juelich
email: R.Bauer@fz-juelich.de
http://www.fz-juelich.de/icg/icg-i/
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