Subject: Re: sorting array column/rowwise
Posted by Paul Sorenson on Wed, 03 Jul 2002 22:27:51 GMT
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Have you looked at the SORT routine? The following example sorts by the first column of a.

```
IDL> a = randomu(seed, 4, 4)
IDL> print, a[*, sort(a[0, *])]
    0.303753     0.933435     0.723623     0.636985
    0.535081     0.804346     0.313356     0.620587
    0.574060     0.790996     0.821293     0.671731
    0.799868    0.0666149     0.123060     0.281230
```

There's also a routine called BSORT at http://idlastro.gsfc.nasa.gov/ftp/pro/misc/bsort.pro . It is like the IDL SORT function but subscript order is maintained when values are equal.

-Paul Sorenson

"Marc Schellens" <m_schellens@hotmail.com> wrote in message news:3D2295BC.5030207@hotmail.com...
> Is there an elegant (ie. without loops) way to sort
> the columns or rows of an array?
> I need the sorted indices.
> thanks,
> marc
>

Subject: Re: sorting array column/rowwise
Posted by marc schellens[1] on Thu, 04 Jul 2002 07:37:04 GMT
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Paul Sorenson wrote:
> Have you looked at the SORT routine? The following example sorts by the
> first column of a.
>
> IDL> a = randomu(seed, 4, 4)
> IDL> print, a[*, sort(a[0, *])]
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> 0.535081 0.804346 0.313356 0.620587
> 0.574060 0.790996 0.821293 0.671731
> 0.799868 0.0666149 0.123060 0.281230

Thanks Paul,

but I wanted to sort each column individually.
Any guesses?

marc

Subject: Re: sorting array column/rowwise
Posted by Jaco van Gorkom on Thu, 04 Jul 2002 09:26:41 GMT
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"Marc Schellens" <m_schellens@hotmail.com> wrote in message
news:3D23FB20.5020804@hotmail.com...
  ...
> but I wanted to sort each column individually.
> Any guesses?

for sorting rows:
If the range of values in each row is limited, then it
might be possible to add an offset to each row that makes
the value ranges of the rows non-overlapping and incrementing.
Then a single call to SORT will provide the correct sorted
indices for the entire array.
for sorting columns:
First do a TRANSPOSE, then sort the rows?

Subject: Re: sorting array column/rowwise
Posted by David Fanning on Thu, 04 Jul 2002 13:42:44 GMT
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Marc Schellens (m_schellens@hotmail.com) writes:

> but I wanted to sort each column individually.
> Any guesses?

Here is how I would sort a column of an array.
But I think I would use the BSORT routine,
rather than the SORT routine if I was putting
it into a piece of code that mattered to me.

IDL> a=randomu(-3L, 3, 10)

```
IDL> print, a
     0.897916     0.558249     0.766930
     0.589101    0.0603181     0.973112
    0.0378892     0.218058     0.142394
     0.984703     0.894904     0.947651
     0.804079     0.160385     0.208246
     0.818130     0.103716     0.741117
    0.0134482    0.0960160     0.692969
    0.0230946     0.181693    0.0777949
     0.269231     0.286594     0.730963
     0.727624     0.272199     0.481930
IDL> s1 = sort(a[1,*])
IDL> a[1,*] = (a[1,*])[s1]
IDL> print, a
     0.897916    0.0603181     0.766930
     0.589101    0.0960160     0.973112
    0.0378892     0.103716     0.142394
     0.984703     0.160385     0.947651
     0.804079     0.181693     0.208246
     0.818130     0.218058     0.741117
    0.0134482     0.272199     0.692969
    0.0230946     0.286594    0.0777949
     0.269231     0.558249     0.730963
     0.727624     0.894904     0.481930
```

I expect that if I spent five more minutes on this
I could probably write a generalized program
that would sort on any column. :-)

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: sorting array column/rowwise
Posted by R.Bauer on Thu, 04 Jul 2002 14:47:15 GMT
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Marc Schellens wrote:
>
> Paul Sorenson wrote:
>> Have you looked at the SORT routine? The following example sorts by the

>> first column of a.
>>
>> IDL> a = randomu(seed, 4, 4)
>> IDL> print, a[*, sort(a[0, *])]
>> 0.303753 0.933435 0.723623 0.636985
>> 0.535081 0.804346 0.313356 0.620587
>> 0.574060 0.790996 0.821293 0.671731
>> 0.799868 0.0666149 0.123060 0.281230
>
> Thanks Paul,
>
> but I wanted to sort each column individually.
> Any guesses?
>
> marc

Dear Marc

I believe this routine from our library is the right one
http://www.fz-juelich.de/icg/icg-i/idl_icglib/idl_source/idl _html/dbase/download/n_sort.tar.gz

regards
Reimar
--
Reimar Bauer

Institut fuer Stratosphaerische Chemie (ICG-I)
Forschungszentrum Juelich
email: R.Bauer@fz-juelich.de
---------- -------
a IDL library at ForschungsZentrum Juelich
http://www.fz-juelich.de/icg/icg1/idl_icglib/idl_lib_intro.h tml
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