Subject: Re: IDL function randperm?
Posted by K. Bowman on Wed, 20 Aug 2003 13:00:21 GMT
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In article <Amara.Graps-2008031259130001@amaramac.ifsi.rm.cnr.it>,
Amara.Graps@ifsi.rm.cnr.it (Amara Graps) wrote:

> Greetings!
>
> I wonder if any of you have an IDL function that gives a
> random permutation of an array index, or know of a
> straightforward way to compute it?
>
> In Matlab such a function is called "randperm(n)"
> where n is the length of the array.
>
> For example, if one gives the integer 8, then it returns
> a length 8 integer array with values 0 to 7, randomly permutated.
>
> It is not as simple as it sounds, since the indices are unique.
> I tried variations of randomly SHIFT'g indices from INDGEN()
> with a random number generator, and the values were not
> 'jumbled' satisfactorily.
>
> Thanks in advance for any answer!
> Amara

If I understand your question, you can just generate n uniform random
variables and then sort the result.

```
IDL> x = LINDGEN(10)
IDL> y = RANDOMU(dseed, 10)
IDL> print, x
       0       1       2       3       4       5
6       7
       8       9
IDL> print, y
    0.138249    0.0700486     0.310873     0.610514     0.332400
0.135694     0.975024
    0.370555     0.763737    0.0268037
IDL> z = x[SORT(y)]
IDL> print, z
       9       1       5       0       2       4
7       3
       8       6
```

Ken Bowman

Subject: Re: IDL function randperm?
Posted by Amara.Graps on Wed, 20 Aug 2003 13:50:38 GMT
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> If I understand your question, you can just generate n uniform random
> variables and then sort the result.
>> [...]
> Ken Bowman

Dear Ken,

Great! That's exactly what I wanted. Thanks alot.

Amara
--

****
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http://www.mpi-hd.mpg.de/dustgroup/~graps
****
"We came whirling out of Nothingness scattering stars like dust."
- Rumi

Subject: Re: IDL function randperm?
Posted by rigby on Wed, 20 Aug 2003 13:52:57 GMT
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This is what I use to randomly reorder an array, stripped down to its essentials.I stole the idea from the old RSI newsletter many years ago.

```
FUNCTION Randomize, list, seed
; LIST is the array to be randomized
; SEED is the random number generator seed

n = n_elements(list)
return, list[sort(randomu(seed,n))]

end ;; Randomize
```

```
IDL> seed = 1
IDL> print, Randomize( indgen(5), seed)
      1       0       3       2       4
```

Note that randomu(), and thus Randomize(), returns SEED as a

36-element long array, tho' you can initialize it with a scalar.

--Wayne

Amara.Graps@ifsi.rm.cnr.it (Amara Graps) wrote in message
news:<Amara.Graps-2008031259130001@amaramac.ifsi.rm.cnr.it>...

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> straightforward way to compute it?

Subject: Re: IDL function randperm?
Posted by robert.dimeo on Wed, 20 Aug 2003 14:40:20 GMT
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Hi,

How about...

function randperm,n
return, array = sort(randomn(s,n))
end

Amara.Graps@ifsi.rm.cnr.it (Amara Graps) wrote in message
news:<Amara.Graps-2008031259130001@amaramac.ifsi.rm.cnr.it>...
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>
> Thanks in advance for any answer!
> Amara

Subject: Re: IDL function randperm?
Posted by robert.dimeo on Wed, 20 Aug 2003 14:43:01 GMT
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Oops...mistake in the syntax of my last posting...

Try this:

```
function randperm,n
return,sort(randomn(s,n))
end
```

Amara.Graps@ifsi.rm.cnr.it (Amara Graps) wrote in message
news:<Amara.Graps-2008031259130001@amaramac.ifsi.rm.cnr.it>...
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Subject: Re: IDL function randperm?
Posted by meron on Thu, 21 Aug 2003 04:00:02 GMT
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In article <Amara.Graps-2008031259130001@amaramac.ifsi.rm.cnr.it>,
Amara.Graps@ifsi.rm.cnr.it (Amara Graps) writes:
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> random permutation of an array index, or know of a
> straightforward way to compute it?

>
Look for SHUFFLE in my library, MIDL. You should find it on the RSI
user contributions page.

Mati Meron | "When you argue with a fool,
meron@cars.uchicago.edu | chances are he is doing just the same"
