Subject: Re: Fastest way to list combinations
Posted by Paul Van Delst[1] on Fri, 13 Jul 2012 21:28:29 GMT
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Hello,

On 07/13/12 16:51, antar3s86@gmail.com wrote:
> Hi
>
> I have to solve a problem which includes listing all possible combinations to form a triplet for a given number of objects.
>
> Say you have the objects:
> a,b,c,d,e, so in total 5 which gives you 5!/(2!*3!) = 10 possibilities to list them without any doubles:
>
> abc
> abd
> abe
> acd
> ace
> ade
> bcd
> bce
> bde
> cde
>
> I have solved this problem for any number (well up to some computer limit anyway) in three FOR loops but for large numbers this is rather small...
>
> can you think of a better way than using loops to list all these possibilites?
>
> thanks!!
> :)

Dunno if it's the fastest and/or best way, but have a look at:
http://ftp.emc.ncep.noaa.gov/jcsda/CRTM/idl/
There should be three files.

If you look at the test_combination.pro you will see how to use it.

For example, getting a list of all the combos of three letters from 26:

```
IDL> t=systime(1) &  Test_Combination, 26, 3 & print, systime(1)-t
...lots and lots of output listing the combinations....
       22       23       25
       22       24       25
       23       24       25
```

Total combinations: 2600
  0.032832861
IDL>

You could use this sort of output to generate index arrays to extract your combination of letters from string arrays.

Anyhoo, hope they're useful.

cheers,

paulv

p.s. There may be a native solution for this as well. I wrote those routines a while back... perhaps even as an
exercise. Can't recall.
