
Subject: Re: array indexing question

Posted by [mperrin+news](#) on Fri, 12 Jul 2002 01:20:45 GMT

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Michael A. Miller <mmiller3@iupui.edu> wrote:

> I have three arrays, pa, pb and pab. pa and pb are both 1D
> arrays of length N and pab is a 2D NxN array. I want to
> calculate the sum of $pab[i,j] * \log(pab[i,j]) / pa[i] / pb[j]$. I know
> that I can do things like `total(pa * alog(pa))` when I'm dealing
> with a single array. Any suggestions for how to do my first sum
> most efficiently?

How about just

```
total( pab * alog(pab) / rebin(pa,N,N) / rebin(transpose(pb),N,N))
```

The `reform()` calls turn your 1D arrays into 2D arrays, so they can then easily be combined with the pab array. The `transpose` call is needed to get the latter vector changed into a column rather than row vector so the indices work properly.

See the ever-popular

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

for more tricks along these lines.

- Marshall
