Subject: Re: Multi-dimensions without for loop ?
Posted by btt on Thu, 25 Mar 2004 14:09:06 GMT
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Emmanuel Christophe wrote:
> Hi,
>
> I'm trying to optimize some IDL code, removing for loops.
>
> I'm using the mean function to get the average of each line (this is for
> the example, could be another function). From a 2 dimensional array, I
> want to remove the mean of each column.
>
> Here is a sample using a loop:
> ---
> for j=0,size-1 do begin
> vect=data[j,*]
> datac[j,*]=vect-mean(vect)
> endfor
> ---
>
> How to do it in one instruction: if i'm using something like
> 'mean(data)', i'll get the average for the whole array, and not line by
> line.
>
> the instruction 'total' give me something similar to what I want:
> 'total(data,1)' will make the sum in only one direction.
>
> How to get that with ordinary function ? and is it possible ? I'm
> thinking of something like 'data[0:size-1,*]'...
>

Hello,

You can do it without a loop, but unfortunately not with the built-in
statistics routines.

```
IDL> data = Findgen(4,6)
IDL> colTotal = TOTAL(data,2)
IDL> dim = Size(data, /dim)
IDL> colMean = Rebin(colTotal/dim[1], dim)
IDL> newData = data-colMean
```

But you could write your own routine to add the neat dimension handling
to MEAN, MOMENT, etc that you already get with TOTAL, MAX, etc.

Ben