Subject: Re: Assignment Time for a 3d Variable
Posted by Mark Hadfield on Wed, 23 Nov 2005 20:17:04 GMT
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Fï¿½ldy Lajos wrote:
> Hi,
>
> Fortran is column major, IDL and C are row major. In IDL (unlike C or
> Fortran) the first subscript is column, not row.
>
> It is best not to refer to Fortran or C, IDL is like IDL :-)

Dragging in "rows" and "columns" here is a distraction. They relate (presumably) to how you print an array or possibly to how you interpret the array dimensions in matrix operations. I am not really a matrix-oriented guy and that is why I find Matlab so painful. It also may be why when I hear people use the terms row-major and column-major I put my fingers in my ears and go "la la la" until the noise stops.

IDL is like Fortran in that the left-most index refers to the dimension that varies fastest in memory. Ie. if we have a = fltarr(3,2) then the order of the elements in memory is...

```
a[0,0] a[1,0] a[2,0] a[0,1] a[1,1] a[2,1]
```

So it generally makes sense to loop over the left-most index (inner dimension)

```
a = fltarr(m, n)
for j=0,n-1 do begin
  for i=0,m-1 do begin
    ; Do something with a[i,j]
  endfor
endfor
```

This way you're stepping thru memory from right to left.

Previous messages have suggested that because IDL is implemented in C it must use C's convention. Not so.

--
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