
Subject: For loop avoidance - getting indices of real space

Posted by [simulana](#) on Thu, 23 Aug 2012 20:58:48 GMT

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I have read and re-read until cross-eyed this post: <http://www.idlcoyote.com/tips/forloops.html>

And yet, I still can't quite grasp at how I can solve my for loop problem. I think it might involve the use of modulo (MOD), but I'm not sure how. My question is, how can you grab the indices (i,j,k) of a 3D array in real space, and throw them into basically 3 1D arrays that is just a list of all the cells in the "proper" order (column-major).

Here is an example of what I mean:

pro testreader

xcells=15

ycells=10

zcells=20

ncells=xcells*ycells*zcells

data=dindgen(xcells,ycells,zcells)

coord=intarr(ncells,3)

index=0L

for k=0,zcells do begin

 for j=0,ycells do begin

 for i = 0,xcells do begin

 coord(index,0)=i

 coord(index,1)=j

 coord(index,2)=k

 index=index+1

 endfor

 endfor

endfor

end

This is a really simple version of a complex problem I have. I have sets of different size boxes from an AMR MHD code, and I need to keep track of their indices, but I just want a list of all of the cells, not to drag around a bunch of smaller arrays or try to concatenate them into one giant sparse array (waste of space). I'm certain that someone must have had this problem before, but I can't find any other suggestions on this forum.
