Subject: subscribing 3D arrays
Posted by Tom Wassenaar on Thu, 16 Sep 1999 07:00:00 GMT
View Forum Message <> Reply to Message

I can't figure out how to directly subscribe a group of individual cells
in one layer of a 3D array. Because of memory problems due to the array
size I do not want to create additional 2D arrays to be assigned later
on to layers of the 3D array.

To illustrate:

a = indgen(3,3)
a[[1,2],[2,1]] = 0
print, a

0 1 2
3 4 0
6 0 8

so 2 cells set to zero, but

b = indgen(3,3,3)
b[[1,2],[2,1],0] = 0
print, b[*,*,0]

0 1 2
3 0 0
6 0 0

so a square envelope of cells set to zero
Any suggestion ?

--

ï¿½ï¿½ï¿½ï¿½ï¿½ï¿½ï¿½ï¿½ï¿½ï¿½
ï¿½ï¿½ï¿½ï¿½ï¿½ï¿½ï¿½ï¿½ï¿½ï¿½
ï¿½ï¿½ï¿½ï¿½ï¿½ï¿½ï¿½ï¿½ï¿½ï¿½
ï¿½ï¿½ï¿½ï¿½ï¿½ï¿½ï¿½ï¿½ï¿½ï¿½
ï¿½ï¿½ï¿½ï¿½
Tom Wassenaar
INRA Science du Sol, 2 place Pierre Viala
34060 Montpellier Cedex 02, tel. +33 (0)499612764
fax +33(0)467632614, Mï¿½l : wassenaar@ensam.inra.fr
ï¿½ï¿½ï¿½ï¿½ï¿½ï¿½ï¿½ï¿½ï¿½ï¿½
ï¿½ï¿½ï¿½ï¿½ï¿½ï¿½ï¿½ï¿½ï¿½ï¿½
ï¿½ï¿½ï¿½ï¿½ï¿½ï¿½ï¿½ï¿½ï¿½ï¿½
ï¿½ï¿½ï¿½ï¿½ï¿½ï¿½ï¿½ï¿½ï¿½ï¿½
ï¿½ï¿½ï¿½ï¿½

Subject: Re: subscribing 3D arrays
Posted by fireman on Thu, 16 Sep 1999 07:00:00 GMT
View Forum Message <> Reply to Message

Tom Wassenaar (wassenaa@ensam.inra.fr) wrote:
: I can't figure out how to directly subscribe a group of individual cells
: in one layer of a 3D array.

: b = indgen(3,3,3)
: b[[1,2],[2,1],0] = 0
: print, b[*,*,0]

: 0 1 2
: 3 0 0
: 6 0 0

Tom -

Combining subscript arrays and scalars is not as obvious as it seems!
In fact your 2-d example worked only because of the particular subscripts
you chose. See the IDL Manual, Combining Array Subscripts with Others.
I would stick with explicit point reference, as follows:

```
IDL> b[[1,2,0],[2,1,0]] = 0
IDL> print, b[*,*,0]
      0       1       2
      3       4       0
      6       0       8
```

Good luck,
Gwyn

--
-- Gwyn F. Fireman
-- General Sciences Corporation / MODIS Characterization Support Team
-- Gwyn.Fireman@gsfc.nasa.gov 301-352-2118

Subject: Re: subscribing 3D arrays
Posted by Dick Jackson on Thu, 16 Sep 1999 07:00:00 GMT
View Forum Message <> Reply to Message

Tom Wassenaar wrote:
>
> I can't figure out how to directly subscribe a group of individual cells
> in one layer of a 3D array.
>

> [...]
>
> b = indgen(3,3,3)
> b[[1,2],[2,1],0] = 0
> print, b[*,*,0]
>
> 0 1 2
> 3 0 0
> 6 0 0
>
> so a square envelope of cells set to zero
> Any suggestion ?

When the arrays of index values are of different lengths, IDL takes the subset of each dimension separately. When you say b[[1,2],[2,1],0], this means all points with X=1 or 2, Y=2 or 1, and Z=0: 2*2*1 = 4 array elements

What you want to do is give three equal-length arrays, one for each dimension. Then IDL will take one array element for each corresponding set of three index values:

```
b = indgen(3,3,3)
b[[1,2],[2,1],[0,0]] = 0
print, b[*,*,0]

      0       1       2
      3       4       0
      6       0       8
```

The Replicate command can be useful for making an array of '0' values as long as you need it.

Cheers,
--
-Dick

Dick Jackson Fanning Software Consulting, Canadian Office
djackson@dfanning.com Calgary, Alberta Voice/Fax: (403) 242-7398
Coyote's Guide to IDL Programming: http://www.dfanning.com/