
Subject: Re: 2D to 3D Array

Posted by [David Fanning](#) on Fri, 07 Apr 2006 20:19:47 GMT

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rafaloos@gmail.com writes:

```
> I have a Band Interleaved Image (BIL):
> samples = 300
> lines = 316
> bands = 481
>
> I can read this image as a 2D array of (144300, 316) Where 144300 will
> be the product of samples by bands.
> I would like to reformat the image so that I can put the data into an
> array such as (300, 316, 481).
>
> For example: I have this array (6,2)
>
> array[*,0] = [1, 2, 1, 2, 1, 2]
> array[*,1] = [3, 4, 3, 4, 3, 4]
>
> What I want is a result as:
>
> array[*,*,0] = 1, 2
>               3, 4
>
> array[*,*,1] = 1, 2
>               3, 4
>
> array[*,*,2] = 1, 2
>               3, 4
>
> so that my array will be (2,2,3)
```

First reform your array into a [2,3,2] array:

```
array = Reform(array, 2, 3, 2)
```

Then, transpose the dimensions the way you want them:

```
array = Transpose(array, [0,2,1])
```

```
IDL> print, array[*,*,2]
```

```
1    2
3    4
```

```
IDL> print, array[*,*,1]
```

```
1    2
3    4
```

```
IDL> print, array[*,*,0]
```

```
  1    2  
  3    4
```

Cheers,

David

--

David Fanning, Ph.D.

Fanning Software Consulting, Inc.

Coyote's Guide to IDL Programming: <http://www.dfanning.com/>

Subject: Re: 2D to 3D Array

Posted by [Paul Van Delst\[1\]](#) on Fri, 07 Apr 2006 20:21:22 GMT

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rafaloos@gmail.com wrote:

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> bands = 481

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> For example: I have this array (6,2)

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>

> array[*,*,0] = 1, 2

> 3, 4

>

> array[*,*,1] = 1, 2

> 3,4

>

> array[*,*,2] = 1, 2

> 3, 4

>

> so that my array will be (2,2,3)

REFORM your [144300,316] array to [300,481,316], and then use TRANSPOSE to swap the last

two indices. E.g.

```
IDL> array=lonarr(8,2)
IDL> array[* ,0] = [1, 2, 1, 2, 1, 2, 1, 2]
IDL> array[* ,1] = [3, 4, 3, 4, 3, 4, 3, 4]
IDL> help, array
ARRAY      LONG      = Array[8, 2]
IDL> a=reform(array,2,4,2)
IDL> help, a
A          LONG      = Array[2, 4, 2]
IDL> print, a[* ,*,0]
    1      2
    1      2
    1      2
    1      2
IDL> print, a[* ,*,1]
    3      4
    3      4
    3      4
    3      4
IDL> b=transpose(a,[0,2,1])
IDL> help, b
B          LONG      = Array[2, 2, 4]
IDL> print, b[* ,*,0]
    1      2
    3      4
IDL> print, b[* ,*,1]
    1      2
    3      4
IDL> print, b[* ,*,2]
    1      2
    3      4
IDL> print, b[* ,*,3]
    1      2
    3      4
```

paulv

--

Paul van Delst
CIMSS @ NOAA/NCEP/EMC

Subject: Re: 2D to 3D Array

Posted by [rafaloos](#) on Fri, 07 Apr 2006 20:41:05 GMT

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Thanks ...

It perfectly worked ... (:

Subject: Re: 2D to 3D Array

Posted by [David Fanning](#) on Fri, 07 Apr 2006 20:57:56 GMT

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rafaloos@gmail.com writes:

> Thanks ...

> It perfectly worked ... (:

It pays to read the Dimensional Juggling Tutorial once
in awhile. :-)

Cheers,

David

--

David Fanning, Ph.D.

Fanning Software Consulting, Inc.

Coyote's Guide to IDL Programming: <http://www.dfanning.com/>
