
Subject: matrices with different size

Posted by [ikverveelmijdoon](#) on Thu, 13 Jan 2005 16:21:49 GMT

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Hi,
my problem is the following: I have a dataset with a strong sinusoidal component. However, its period and height are not constant. What I exactly want is to split-up the data in different parts, and put them into a matrix. Is this possible in IDL (and how?) to generate a matrix, filled with vectors that have a different length? I know that in Matlab "cell arrays" can be used.

Best regards,
Veerle

Subject: Re: matrices with different size

Posted by [Chris Lee](#) on Thu, 13 Jan 2005 22:30:14 GMT

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In article <3374f20e.0501130821.41623a00@posting.google.com>, "V.S." <ikverveelmijdoon@hotmail.com> wrote:

> Hi,
> my problem is the following: I have a dataset with a strong sinusoidal
> component. However, its period and height are not constant. What I
> exactly want is to split-up the data in different parts, and put them
> into a matrix. Is this possible in IDL (and how?) to generate a matrix,
> filled with vectors that have a different length? I know that in Matlab
> "cell arrays" can be used.
> Best regards,
> Veerle

I have to ask why you want to split the dataset into (presumably) single wave period and not something use Fourier or Wavelet analysis on the full data but anyway....You could use pointers.
e.g

```
a=ptrarr(10)
a[0]=ptr_new(fltarr(100))
a[1]=ptr_new(fltarr(20))
a[2]=ptr_new(lonarr(10))
..
plot, *a[0] ;etc
```

Chris.

Subject: Re: Matrices

Posted by [Helder Marchetto](#) on Mon, 21 Jan 2013 14:48:27 GMT

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On Monday, January 21, 2013 3:32:42 PM UTC+1, fd_...@mail.com wrote:

> Hello!

>

>

>

> I just start using IDL and I have one simple question about matrices.

>

>

>

> I want to create an N by 4 (Nx4)matrix and an N by 1 (Nx1)matrix with my own elements. Does anyone know how to do it?

Hi,

this is not normally the way people make things, however here is a command line option:

```
MyFiveByFourMatrix = [[0,4,8,12,16],[1,5,9,13,17],[2,6,10,14,18],[3,7,11,15,19]]
```

To check, just type:

```
help, MyFiveByFourMatrix
```

But generally you would like to use something like:

```
N=10
```

```
MyFiveByFourMatrix = Make_array(N,4,/INTEGER) ; Makes a 10x4 matrix
```

If you want to do a Nx1 matrix, use either:

```
N_by_One_Matrix = [0,1,2,3,4,5]
```

or

```
N_by_One_Matrix = Make_array(N,1,/INTEGER)
```

The above actually generates an array of N elements. If you really want a Nx1, then you should do the following:

```
N_by_One_Matrix = reform([0,1,2,3,4,5], 6,1)
```

or

```
N_by_One_Matrix = reform(Make_array(N,/INTEGER),N,1)
```

Hope it helps.

Cheers,
Helder

Subject: Re: Matrices

Posted by [Matthew Argall](#) on Mon, 21 Jan 2013 15:20:01 GMT

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> I want to create an N by 4 (Nx4)matrix and an N by 1 (Nx1)matrix with my own elements. Does

anyone know how to do it?

Helder's first example is good, but also, look into

Look into the lonarr(), intarr(), fltarr(), dblarr(), etc. functions in addition to make_array(). If you want a floating point array

```
N = 10
myNbyFour = fltarr(N, 4)
myNbyOne = fltarr(N, 1)
```

Then you can assign values to each element like

```
myNbyFour[0,0] = 5
```

or

```
myNbyFour[:,0] = [1, 2, 3, 4]
```

etc

Subject: Re: Matrices

Posted by [Matthew Argall](#) on Mon, 21 Jan 2013 15:21:13 GMT

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```
> myNbyFour[:,0] = [1, 2, 3, 4]
```

Sorry, this should be

```
myNbyFour[0,*] = [1, 2, 3, 4]
```

Subject: Re: Matrices

Posted by [fd_luni](#) on Mon, 21 Jan 2013 17:39:54 GMT

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```
>> myNbyFour[:,0] = [1, 2, 3, 4]
```

```
>
```

```
>
```

```
>
```

```
> Sorry, this should be
```

```
>
```

```
>
```

```
>
```

```
> myNbyFour[0,*] = [1, 2, 3, 4]
```

Thank you very much for your answers. Maybe I didn't explain very well what I actually wanna do before. Let's say I have four arrays A,B,C,D and E with 100 elements each. Now, I want to create an array which includes the elements of A,B,C and D (100 by 4 matrix).In other words, I want to write the four arrays A,B,C,D into 1 matrix,and a matrix which includes only the elements of E (vertically) so 100 by 1 matrix.

Subject: Re: Matrices

Posted by [fd_luni](#) on Mon, 21 Jan 2013 17:55:00 GMT

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Thank you very much for your answers. Maybe I didn't explain very well what I actually wanna do before. Let's say I have four arrays A,B,C,D and E with 100 elements each. Now, I want to create an array which includes the elements of A,B,C and D (100 by 4 matrix).In other words, I want to write the four arrays A,B,C,D into 1 matrix,and a matrix which includes only the elements of E(vertically) so 100 by 1 matrix.

P.S. an N by 4 matrix has N rows and 4 columnns!!

Subject: Re: Matrices

Posted by [Jeremy Bailin](#) on Mon, 21 Jan 2013 20:06:32 GMT

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On 1/21/13 11:39 AM, fd_luni@mail.com wrote:

```
>>> myNbyFour[:,0] = [1, 2, 3, 4]
```

```
>>
```

```
>>
```

```
>>
```

```
>> Sorry, this should be
```

```
>>
```

```
>>
```

```
>>
```

```
>> myNbyFour[0,*] = [1, 2, 3, 4]
```

```
>
```

> Thank you very much for your answers. Maybe I didn't explain very well what I actually wanna do before. Let's say I have four arrays A,B,C,D and E with 100 elements each. Now, I want to create an array which includes the elements of A,B,C and D (100 by 4 matrix).In other words, I want to write the four arrays A,B,C,D into 1 matrix,and a matrix which includes only the elements of E (vertically) so 100 by 1 matrix.

```
>
```

```
IDL> ABCD = [[A], [B], [C], [D]]
```

```
IDL> help, ABCD
<Expression>  FLOAT  = Array[100, 4]
IDL> Ecolumn = reform(E, n_elements(E), 1)
IDL> help, Ecolumn
ECOLUMN      FLOAT  = Array[100, 1]
```

Of course, Ecolumn will lose the trailing single dimension if you do anything with it... but many (but not all!) things you might think of doing with it won't care.

-Jeremy.
