
Subject: Re: a matrix whose some elements are matrixes
Posted by [Paolo Grigis](#) on Mon, 10 Jul 2006 09:12:30 GMT
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Here's a small example which should help you:

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

```
IDL> print,a
    1    0
    0    1
IDL> print,b
    2    2
    2    2
```

To have a matrix $c=[[a,b],[b,a]]$ do:

```
c=intarr(4,4)

c[0,0]=a
c[0,2]=b
c[2,0]=b
c[2,2]=a
```

The output is:

```
IDL> print,c
    1    0    2    2
    0    1    2    2
    2    2    1    0
    2    2    0    1
```

The trick is to figure out where the upper left corners of the smaller matrices fit into the larger matrix you want to build...

Ciao,
Paolo

haojuanchina@gmail.com wrote:

```
> I want obtain a matrix whose some elements are matrixes, how to compile
> the program?
> example: I want to obtain the following matrix
>      G I I I I I 0
>      I G I 0 0 0 0
>      I I G I 0 0 0
```

```

>      I 0 I G I 0 0
>      I 0 0 I G I 0
>      I 0 0 0 I G I
>      0 0 0 0 0 I G
> in which I is an identity matrix,
>      1 0 0 0 0 0 0
>      0 1 0 0 0 0 0
>      0 0 1 0 0 0 0
>      0 0 0 1 0 0 0
>      0 0 0 0 1 0 0
>      0 0 0 0 0 1 0
>      0 0 0 0 0 0 1
> and G is a similar diagonal matrix:
>      1 -0.25 -0.25 -0.25 -0.25 -0.25 0
>      -0.25 1 0 0 0 0 0
>      -0.25 0 1 0 0 0 0
>      -0.25 0 0 1 0 0 0
>      -0.25 0 0 0 1 0 0
>      -0.25 0 0 0 0 1 0
>      0 0 0 0 0 0 1
> I can compile the program of the matrix G:
> PRO Matrix
>
> diag=findgen(7)
> sub=findgen(6)
> super=findgen(6)
>
> diag[0:6]=1
> sub[0:5]=-0.25
> super[0:5]=-0.25
>
> G = DIAG_MATRIX(diag) + $
> DIAG_MATRIX(super, 1) + DIAG_MATRIX(sub, -1)
> G[0,1:5]=-0.25
> G[1:5,0]=-0.25
> print,G
>
> I= DIAG_MATRIX(diag[0:6]);*(-0.25)
> print,I
>
> END
>
> but how to get the first matrix in which include the matrix G and I ?
> Please give me a help!thanks.
>

```
