Subject: Matrix Multiplication in IDL
Posted by K Banerjee on Mon, 04 Aug 2003 20:31:07 GMT
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Folks,

In IDL:

```
VB> a = indgen(2, 4) - 2
VB> print, a       ; Actually prints transpose(a)
      -2      -1
       0       1
       2       3
       4       5
VB> help, a        ; a is a (2 x 4) matrix.
A               INT       = Array[2, 4]

VB> b = indgen(4, 2) + 2
VB> print, b       ; Actually prints transpose(b)
       2       3       4       5
       6       7       8       9
VB> help, b        ; b is a (4 x 2) matrix.
B               INT       = Array[4, 2]


VB> c = a ## b
VB> print, c       ; Actually prints transpose(c)
        -10        -13        -16        -19
          6          7          8          9
         22         27         32         37
         38         47         56         65
```

Since the matrix C is 4 by 4, the IDL operator "##" performs
the matrix computation:

transpose(a) * transpose(b)

Keeping the above points in mind, I am trying to understand the
IDL command:

transpose(G)##G

(In my case, G is (296 x 4).)

In IDL, the above matrix product turns out to be (4 x 4). However,
I was expecting the matrix product to be (296 x 296) since I
interpret the above IDL command as carrying out the matrix
multiplication:

G * transpose(G)

Clearly, I am not understanding something correctly. Where am I erring? Thanks.

K. Banerjee
