Subject: matrix multiplication
Posted by c1dje on Mon, 22 Mar 1993 22:51:48 GMT
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I am trying to apply a list of rotation matrices to a matching list
of vectors, i.e. a vector of three-vectors and a vector of 3x3 matrices. I
can correctly apply a rotation matrix between a vector and a matrix, but
now the vector is a list of vectors and the matrix is a list of matrices.
I could handle all of this with a "for" loop, but that is inefficient in
IDL; I would like IDL to loop over all of the indices internally. My
problem is creating the rotation matrix with the proper ordering for matrix
multiply (#).
Previously I multiplied a 3-vector by a 3x3 matrix:

[v1,v2,v3] # [[a1,a2,a3],[a4,a5,a6],[a7,a8,a9]]

but now all of the variables are vectors (of matching length) so V is Nx3
and A is Nx3x3. I can transpose V so that it is 3xN but IDL requires the
argument of transpose to be 1D or 2D, not 3D as the rotation matrix
appears. How do I generate the 3x3xN matrix from nine vectors of length N?
Will this collective matrix multiply even work as I expect?

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"The Church doesn't have problems with sex; the world does" -- Vatican official
"A good theory should fit on a T-shirt" -- Astronomer at Jan 1992 AAS meeting