Subject: Re: Matrix algebra and index order, A # B vs A ## B
Posted by David Fanning on Thu, 05 Apr 2012 15:22:34 GMT
View Forum Message <> Reply to Message

Mats Löfdahl writes:

> I'm writing some code where matrix algebra is at the heart of things so I really wanted to understand the conventions and convince myself that I can use them in a consistent way.
>
> I realized a major problem for me was not being able to inspect the matrices properly. The IDL print command can print arrays but because the arrays are interpreted as matrices differently depending on which convention is used, I was never sure of what I was looking at. So I wrote a subroutine that prints a matrix the way it is interpreted, based on the multiplication operator (which I think is a convenient way of specifying column-major/row-major). That really helped me make sense of it so I put it and some examples on a web page here:
http://www.solarphysics.kva.se/~mats/idl/matrixalgebra/

Years ago there was a joint product created between RSI
and IMSL called IDL-IMSL. IMSL produced a very powerful
mathematical library, including a number of matrix
algebra routines. This problem of conventions plagued
the partnership (an entire generation of IMSL engineers
either retired early or ended up the Houston Home for
the Mentally Insane), and a number of these "print"
and "read" routines were created then. I just looked
for them in the "obsolete" directory, but couldn't
find them. They really did nothing more than add
to the confusion, so I'm not surprised they are no
longer with us.

> Does it address the frustration that you all have expressed in this
> thread or are there other issues that I just haven't realized yet?

Alas, anything written on this subject seems to add
to the frustration, rather than alleviate it, but maybe
that's just me. ;-)

I applaud your efforts in any case! :-)

Cheers,

David

--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.

Coyote's Guide to IDL Programming: http://www.idlcoyote.com/
Sepore ma de ni thui. ("Perhaps thou speakest truth.")