Subject: Re: how read a file of complex? Posted by davidf on Fri, 02 Jan 1998 08:00:00 GMT

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Nando lavarone (iavarone@axpba0.ba.infn.it) provides the first interesting problem of the New Year when he writes:

- > I have a data-file containing a matrix. Each element of matrix has the
- > form(real part, imaginary part)[1] with each one LONG.

>

- > 1) How create a matrix with structure [1] to read in a single pass the
- > file?
- > [Slow code clipped.]

For an m-by-n matrix of real-imaginary pairs of long integers, how about something like this:

FUNCTION Read_It, filename, m, n

; Read the data all at once.

data = LonArr(m*n*2)
OpenR, lun, filename, /Get_Lun
ReadU, lun, data
Free Lun, data

; Reform to align real data in column next to imaginary data.

colData = Reform(data, 2, m*n)

; Create vectors of real and imaginary values.

real = Reform(colData[0,*]) imag = Reform(colData[1,*])

; Make complex numbers out of real and imaginary parts.

complexData = Complex(real, imag)

; Reformat the complex data into a matrix and return.

RETURN, Reform(complexData, m, n) END

Call this function like this:

myData = Read It('mydata.dat', 300, 500)

I've taken more steps then necessary here (as someone is sure to point out), but I tried to give you the sense of how this might be done by taking advantage of IDL's array operations instead of loops.

Cheers,

David

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Coyote's Guide to IDL Programming: http://www.dfanning.com/