Subject: Re: how to calculate a running total of a vector
Posted by sjt on Mon, 05 Dec 1994 10:33:15 GMT
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Chris Chase S1A (chase@retro.jhuapl.edu) wrote:

: In article <3bnmri$e91@news.doit.wisc.edu> VUKOVIC@uwmfe.neep.wisc.edu (Mirko Vukovic) writes:

: Mirko> Suppose I have a vector v. I want to generate a vector vv
: Mirko> whose i-th element is a sum of the first i elements of v. How
: Mirko> to do it fast -- without loops?

: Mirko> I thought of multiplying a matrix with 1's on and bellow its
: Mirko> diagonal by v. That would do it, but seems like a bit of
: Mirko> overkill.

: This will work, but it is overkill also. I probably does the same
: amount of computations as your matrix multiply solution.

: running_sum = (convol([0,v],replicate(1.,n_elements(v)),center=0,/edge_tru n))(1:*)

: Chris Chase
: --
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I recall trying various things for this one a while back (on about IDL2.0.13 or thereabouts, running on a VAX) and found the quickest was a single loop:

if DA is your data array:

PS = fltarr(n_elements(DA))

ps(0)=da(0)
for j=1l,n_elements(da)-1 do ps(j)=ps(j-1)+da(j)

I know IDL loops are slow but the other methods tend to have so much overhead of memory allocation etc that it just won. (That said, I haven't tried Chris's method)

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James Tappin,	School of Physics & Space Research	O__
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"If all else fails--read the instructions!"		
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