## Subject: Re: how to calculate a running total of a vector Posted by sit 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 : Bldg 24-E188 : The Applied Physics Laboratory : The Johns Hopkins University : Laurel, MD 20723-6099 : (301)953-6000 x8529 : chris.chase@jhuapl.edu 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 guickest was a single loop: if DA is your data array:

PS = fltarr(n\_elements(DA))

ps(0)=da(0)

for  $j=11,n_elements(da)-1$  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
sjt@star.sr.bham.ac.	uk   University of Birmingham
"If all else failsread	the instructions!"
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