Subject: Summing an array.
Posted by crazywhiteboy311@gmai on Mon, 28 Jul 2008 15:36:02 GMT
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Hello all,

I've got a little problem I've been stuck on for a few days now, and I was hoping to get at least a little guidance to a viable solution. My issue involves the summation of an array in two ways. The array is the used as the output of model plasma measurement device to express the number of particle strikes at a specific position at a certain energy-per-charge value:

X-Coordinate Y-Coordinate Count Energy-per-Charge

X and Y are both integers that range from 0 to 63, Count is a floating point value, and Energy-per-Charge is a floating point value logarithmically spaced from 0.1 to ~13 in 64 bins.

The goal is to produce two arrays from this (that need to be used for two pre-made plotting programs). The first array is a 64x64 element array that contains the sum of all counts at a certain coordinate.
Ie :

Counts at (1,1) Counts at (1,2) Counts at (1,3) ....
Counts at (2,1)
...

The second is to produce an array that is simply a list of all the counts at a single Energy-per-Chage value. ie:
Energy-per-Charge Counts

Now I have been able to do this in the past with loop operations, but considering IDL's 'penalty' for using loops, it runs quite a bit slower then needed. Specifically, it has to deal with arrays that have at max 1.5 million pairs of XY coordinate, count, and Energy-per-Charge value, and it needs to do this operation between 20 and 50 times per execution (number of time steps used). Where I've been getting stuck is switching this to an array based method which I hope to be significantly faster (hopeing for an order of magnitude, but cutting it down by a factor of just 3 would be great). Any advice that can be offered would be appreciated. Thanks for your time, and for reading this lengthy post.

Aron