Subject: Re: array index summations
Posted by rogass on Fri, 18 Dec 2009 14:11:18 GMT
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Hi,
I would try to compute the *self.zsum by using total(z[ii],/
cumulative) and so on.

Hope it helps

CR

Subject: Re: array index summations
Posted by cgguido on Fri, 18 Dec 2009 17:00:11 GMT
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On Dec 18, 5:07 am, "H. Evans" <bloggs...@googlemail.com> wrote:
> I have a time-series data set, effectively a 3-vector (x,y,z), where
> the Z values are to be binned into a 2D array along X/Y.

Isn't this what hist_nd.pro was invented for? or for that matter, the
inbuilt hist_2d? or am I missing something?

Gianguido

Subject: Re: array index summations
Posted by H. Evans on Fri, 18 Dec 2009 18:28:51 GMT
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On Dec 18, 6:00 pm, Gianguido Cianci <gianguido.cia...@gmail.com>
wrote:
> On Dec 18, 5:07 am, "H. Evans" <bloggs...@googlemail.com> wrote:
>
>> I have a time-series data set, effectively a 3-vector (x,y,z), where
>> the Z values are to be binned into a 2D array along X/Y.
>
> Isn't this what hist_nd.pro was invented for? or for that matter, the
> inbuilt hist_2d? or am I missing something?
>
> Gianguido

The difference is that the histogramming functions count the number of
points in the bins, i.e. the number of points between x and x+width.
Whereas the CONGRID, GRIDDATA, REBIN functions interpolate the data
points to an X-Y grid.

This function performs statistics on the contents of the Z vector,
i.e. what is the mean value of the data points in the range x->x+dx,
not how many data points are in the range X->x+dx, which the histogram
function provides. In other words, it finds the data points that are
in the bin, and then sums up the Z values in that bin.

If the histogram function provided a weighting function to the
counting, then this could be used to sum the Z values in the bin.

Ta,
Hugh

Subject: Re: array index summations
Posted by David Fanning on Fri, 18 Dec 2009 18:35:13 GMT
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H. Evans writes:

> The difference is that the histogramming functions count the number of
> points in the bins, i.e. the number of points between x and x+width.
> Whereas the CONGRID, GRIDDATA, REBIN functions interpolate the data
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>
> If the histogram function provided a weighting function to the
> counting, then this could be used to sum the Z values in the bin.

I'm not following this closely, but I think the point is
that HIST_ND could tell you which voxels were in each
XY bin, and you could then perform your own statistics
or weighting function on those values, however you liked.

This would reduce the complexity of your code significantly.

Cheers,

David

--

David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.dfanning.com/
Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Subject: Re: array index summations
Posted by H. Evans on Fri, 18 Dec 2009 18:48:21 GMT
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On Dec 18, 7:35 pm, David Fanning <n...@dfanning.com> wrote:
> H. Evans writes:
>> The difference is that the histogramming functions count the number of
>> points in the bins, i.e. the number of points between x and x+width.
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> that HIST_ND could tell you which voxels were in each
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> or weighting function on those values, however you liked.
>
> This would reduce the complexity of your code significantly.

Hi,

Finding the indices of the data points in a 2d bin is not the hard
part. What I'm trying to avoid is having a FOR loop that iterates over
the bins doing the statistics on the data points that are in a bin.

Ta.
Hugh

Subject: Re: array index summations
Posted by Jeremy Bailin on Wed, 30 Dec 2009 04:58:51 GMT
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On Dec 18, 1:48 pm, "H. Evans" <bloggs...@googlemail.com> wrote:
> On Dec 18, 7:35 pm, David Fanning <n...@dfanning.com> wrote:
>
>
>
>
>
>
>> H. Evans writes:
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> part. What I'm trying to avoid is having a FOR loop that iterates over
> the bins doing the statistics on the data points that are in a bin.
>
> Ta.
> Hugh

As often seems the case, I think this article might help:

http://www.dfanning.com/code_tips/drizzling.html

-Jeremy.