Subject: Re: Last bin of a histogram ?
Posted by David Fanning on Wed, 10 Apr 2013 17:50:16 GMT
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John Correira writes:

> I'm trying to understand why HISTOGRAM selects the bins it does. The
> final part I don't understand is the last bin. Here is an example
>
> ; some fake data
> data = RANDOMU(systime(1),1000)*100
>
> ; make sure there are some values in the last bin
> while N_ELEMENTS(where(data ge 99.5 AND data lt 100.,count)) do $
>   data = RANDOMU(systime(1),1000)*100
>
> ; how many points fall in the last bin?
> print, count
>
> h = histogram(data,min=9.5,max=99.5,binsize=.5,locations=locs)
> nbins = n_elements(h)
>
> ; starting locations of the last few bins
> print, locs[nbins-5:nbins-1]
>
> ; how many points in the last few bins
> print, h[nbins-5:nbins-1]
>
> Why is the last bin returned by the HISTOGRAM function zero? According
> to the help, the LOCATIONS keyword returns "the starting locations for
> each bin", so to my mind the last bin should include values that fall
> between locations[-1] and locations[-1]+binsize. I must be missing
> something obvious but I can't see it.

It seems to me you are missing the fact that you set MAX=99.5 in the
HISTOGRAM command. Or, am I missing something?

Cheers,

David

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

Subject: Re: Last bin of a histogram ?
Posted by John Correira on Wed, 10 Apr 2013 18:02:42 GMT

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On 04/10/2013 01:50 PM, David Fanning wrote:
>
> It seems to me you are missing the fact that you set MAX=99.5 in the
> HISTOGRAM command. Or, am I missing something?
>
> Cheers,
>
> David
>

I thought that defined the start of the last bin. If you look at the
output locations, the last one is 99.5, which, again according to the
help, defines the starting location for each bin.

John

Subject: Re: Last bin of a histogram ?
Posted by David Fanning on Wed, 10 Apr 2013 18:08:02 GMT

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John Correira writes:

> I thought that defined the start of the last bin. If you look at the
> output locations, the last one is 99.5, which, again according to the
> help, defines the starting location for each bin.

Well, OK, that is the starting location of the last bin, then. But, it
will be empty, since you told the function to ignore anything that might
go into it.

Cheers,

David

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

Subject: Re: Last bin of a histogram ?

On 04/10/2013 02:08 PM, David Fanning wrote:
> John Correira writes:
>
>> I thought that defined the start of the last bin. If you look at the
>> output locations, the last one is 99.5, which, again according to the
>> help, defines the starting location for each bin.
>
> Well, OK, that is the starting location of the last bin, then. But, it
> will be empty, since you told the function to ignore anything that might
> go into it.
>
> Cheers,
>
> David
>

I see.

So the following two calls will return the exact same set of bins, but
different histograms:

h1 = histogram(data,min=0.,max=99.5,binsize=.5,locations=l1)
h2 = histogram(data,min=0.,nbins=200,binsize=.5,locations=l2)

print, array_equal(l1,l2)
print, array_equal(h1,h2)

Brilliant.