Subject: Finding peak with cgHistoplot and bin confusion
Posted by rjp23 on Wed, 08 Jan 2014 13:39:01 GMT
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I'm using cgHistoplot with the binsize value set like so:

cgHistoplot, data, binsize=100, xrange=[0, 8000]

Is there a simple way to find the x value where the histogram peaks?

I thought using the histdata keyword would have worked and then something like find=where(histdata EQ max(histdata)).

The problem though is then knowing which bin that subscript refers to. I assumed because I specify xrange starting from 0 then my first bin would be 0-99. However, if I use the omin keyword it returns a value of 698.045. Does that mean by first bin is 600-699? or 698.045-797.045?

Cheers

Subject: Re: Finding peak with cgHistoplot and bin confusion
Posted by David Fanning on Wed, 08 Jan 2014 13:59:29 GMT
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rjp23@le.ac.uk writes:

>
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>
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I would do something like this:

```
cgHistoplot, data, binsize=100, xrange=[0, 8000], HistData=d
maxValue = Max(d, binNumber)
```

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: Finding peak with cgHistoplot and bin confusion
Posted by rjp23 on Wed, 08 Jan 2014 14:33:19 GMT
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On Wednesday, January 8, 2014 1:59:29 PM UTC, David Fanning wrote:
>
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>
>
>
>
>   cgHistoplot, data, binsize=100, xrange=[0, 8000], HistData=d
>
>   maxValue = Max(d, binNumber)
>

Hi David,

Sorry I don't think I explained very well. What you've posted there is just the equivalent of find=where(histdata EQ max(histdata)) isn't it?

What is causing me trouble is then using the returned bin subscript to get the correct bin value.

I think my problem is that I assumed that the first bin was at the bottom of my xrange but it's actually at the bottom of my data range (I think?).

If I do this it looks like it works to get to the middle of the bin in which the distribution peaks:

peak=omin+binsize*find+binsize/2.

Subject: Re: Finding peak with cgHistoplot and bin confusion
Posted by Phillip Bitzer on Wed, 08 Jan 2014 17:09:14 GMT
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According to the documentation, xrange is passed to the plot command. You're probably wanting mininput/maxinput, not xrange:

http://www.idlcoyote.com/idldoc/cg/cghistoplot.html

But more to the point, you can always get the locations of the bins through a keyword:

```
cgHistoplot, data, binsize=100, LOCATIONS=loc, HISTDATA=h

maxHisto = MAX(h, binInd)
print, loc[binInd]
```

Keep in mind that the locations are the starting point of the bins. You might want to use the center of the bin for reporting purposes.
