
Subject: What's HISTOGRAM doing now?

Posted by [Mrunmayee](#) on Fri, 22 Oct 2010 09:36:34 GMT

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I just wanted logarithmic bins and opted to histogram the log of data.
Since that gave me some discrepancy, I wrote a tester code:

PRO Loghist_Test

```
data = 1. + Randomu(seed,1000)
```

```
nbins = 10
```

```
Max = 2.
```

```
Min = 1.
```

```
;Linear:
```

```
binsize = (Max - Min)/(Nbins-1)
```

```
datahist = Histogram(data, Min=Min, Max=Max, locations=bins,
```

```
binsize=binsize, omax=omax)
```

```
Print, "Binsize = ",binsize
```

```
Print, "Bins used: ", bins
```

```
Print, "Max value used = ", omax
```

```
;Logarithmic
```

```
binsize = (Alog10(Max) - Alog10(Min))/(Nbins-1)
```

```
datahistlog = Histogram(Alog10(data), Min=0, Max=Alog10(Max),
```

```
locations=bins, binsize=binsize, omax=omax)
```

```
Print, "Binsize = ",binsize
```

```
Print, "Bins used: ", bins
```

```
Print, "Max value used = ", omax
```

```
END
```

I ran this code, here is the output:

```
IDL> loghist_test
```

```
Binsize =    0.111111
```

```
Bins used:    1.00000    1.11111    1.22222    1.33333
```

```
1.44444    1.55556    1.66667    1.77778    1.88889
```

```
Max value used =    2.00000
```

```
Binsize =    0.0334478
```

```
Bins used:    0.00000    0.0334478    0.0668956    0.100343
```

```
0.133791    0.167239    0.200687    0.234134    0.267582
```

```
Max value used =    0.301030
```

Instead, if I do this directly from command line, i.e. for linear bins,

```
IDL> datahist = histogram(data, min=1, max=2, binsize=0.111111,  
locations=bins,omax=omax)
```

```
IDL> print,bins
```

1.00000 1.11111 1.22222 1.33333 1.44444
1.55555 1.66667 1.77778 1.88889 2.00000

Why are bins different? Output is unchanged for log bins when I am histo-ing $\text{alog}_{10}(\text{data})$ with corresponding log bins. Also, instead of using BINSIZE, if I use NBINS in program, things work as they should. So what's histogram upto NOW? Where am I missing something?
