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Subject: Re: REBIN needs explaining

Posted by [Paolo Grigis](#) on Wed, 01 Dec 2004 08:45:40 GMT

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David Fanning wrote:

> JD Smith writes:

>

>

>> So here it has just 1 interval producing 10 points, and 10 points are

>> duplicated from the last value. The manual also recommends the

>> solution:

>>

>> If this effect is undesirable, use the INTERPOLATE function.

>

>

> Well, I *would* use the INTERPOLATE function if I could

> understand it. :-(

>

> The REBIN documentation says this:

>

> \*\*\*\*\*

> ; A four point vector:

> A = [0, 10, 20, 30]

>

> ; Expand by a factor of 3:

> B = REBIN(A, 12)

>

> PRINT, B

> IDL prints:

>

> 0 3 6 10 13 16 20 23 26 30 30 30

>

> Note that the last element is repeated three times. If this effect is

> undesirable, use the INTERPOLATE function. For example, to produce 12

> equally spaced interpolates from the interval 0 to 30:

>

> B = INTERPOLATE(A, 3./11. \* FINDGEN(12))

> PRINT, B

> IDL prints:

>

> 0 2 5 8 10 13 16 19 21 24 27 30

> \*\*\*\*\*

>

> But,

>

> IDL> Print, 3./11. \* FINDGEN(12))

> 0.000000 0.272727 0.545455 0.818182 1.09091

> 1.36364 1.63636 1.90909 2.18182 2.45455 2.72727

> 3.00000  
>  
> How in the world to \*those\* numbers, when applied to A, produce  
> the result I get? Seems like magic to me. :-(

They say, a picture is worth a thousand words, therefore the following plot should be able to enlighten the meaning of INTERPOLATE better than a lengthy explanation...

```
x=findgen(4)
a=[0.,10,20,30]
z=3./11. * FINDGEN(12)
plot,x,a,psym=-4,xrange=[-0.5,3.5],yrange=[-5,35]
oplot,z,interpolate(a,z),psym=1
```

Ciao,  
Paolo  
>  
> Cheers,  
>  
> David  
>

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