Hi Patrick

Patrick Ford, MD wrote:
>
> REBIN question
>
> Either I have uncovered a bug in REBIN in the Mac version of IDL V 5.0.3
> or I don¹t fully understand how REBIN works. I want to take a 2-D byte
> array at_target that is 64X64 in size and make it into a 1-D byte array
> with the same number of elements and vis versa. The results are not what
> I am expecting so I used the code below to test it. The displayed images
> are not even close to each other.
>
> Would someone be kind enough to explain why and how I can do this other
> than using the code below(test2) the offending section.
>
> Thanks.
>

I finally understand what you want to do and what is happening. The
trick is
that rebin does change the contents of the array by bilineair
interpolation when
maximizing a dimension and neighbourhood averaging when minimizing. By
doing
rebin(at_target, 64*64) on a bytarr(64,64) you rescale this array,
thus getting a bytarr(4096,1). BUT! Rebin uses neighborhood averaging
whereby
your code:

> at_target= bytarr(64,64)
> at_target(0:63,0:63) = 255B
> at_target(10:20,10:20) = 200B;

produces a bytarr(4096,1) with roughly

at_target(640:1280,1) EQ 200B

If you then again use rebin(at_target,64,64) this image will be
stretched
in the second dimension whereby making at_target(10:20,*) EQ 200B. So
instead
of a square you end up with a line!

This is not what you want to do. You should use REFORM instead which will only
change the way in which the array-elements are indexed and NOT alter the actual
data. Doing this in both instances will give the desired result.

```
pro test
window,5,xsize= 128, ysize = 128
window,6,xsize= 128, ysize = 128

at_target= bytarr(64,64)
at_target(0:63,0:63) = 255B
at_target(10:20,10:20) = 200B;

wset,5
tvscl, at_target
wset,6
; REBIN modifies the data
; tvscl, rebin(rebin(at_target, 64*64),64,64)
; REFORM does NOT modify the data
tvscl, reform(reform(at_target, 64*64),64,64)
end
```

Hope this makes things a bit clear. Cheers,

Armand

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