Subject: Re: Having trouble with code for data to image.
Posted by Chris[6] on Wed, 26 Nov 2008 07:40:05 GMT
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The subscripting of IMAGE looks ok - my guess is that one of your values of left, right, bottom, or top falls outside the numbers in xrange / yrange. Try printing them out in the loop to look for the values it tries to use when it crashes. Also watch out for floating point issues like roundoff error creating an out-of-range subscript

chris

Subject: Re: Having trouble with code for data to image.
Posted by Jean H. on Wed, 26 Nov 2008 12:37:58 GMT
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mbweller@gmail.com wrote:
> Hello,
>
> I am running the code:
>
> image = fltarr(nx,ny)
> deltax = (xrange[1]-xrange[0])/float(nx)
> deltay = (yrange[1]-yrange[0])/float(ny)
> for i=0l,ndata-1 do $
> image[(left[i]-xrange[0])/deltax:(right[i]-xrange[0])/deltax , $
> (bottom[i]-yrange[0])/deltay:(top[i]-yrange[0])/deltay] =
> magnitude
> [i]
>
> where: nx=ny=180
> xrange= [-180,0]
> yrange = [-90,90]
> ndata = 32400 (or180^2 or nx*ny)
> eg left -180
> right -179
> top 90
> bottom 89
> magnitude 0.1648
>
> and i get the error when I run the code:
>
> % Subscript range values of the form low:high must be >= 0, < size,
> with low <= high: IMAGE
>
> I assume the problem is in the way that my data is ordered, and I have
> tried switching lows and highs around, but to no avail. I would

> imagine this is pretty simple to solve, but it is not clear to me
> right now.
>
> Any insight?
>
> Thanks,
>
> ~Matt

Hi,
with the data you provide, you are out of bounds...
(bottom[i]-yrange[0])/deltay:(top[i]-yrange[0])/deltay] ==> 179:180
... 180 is out of bound. Remember that indexing is from 0 to n-1. You
might want to throw a -1 in your indexes...
As Chris has suggested it, print your indexes and be sure they are correct!

Jean

Subject: Re: Having trouble with code for data to image.
Posted by Jeremy Bailin on Wed, 26 Nov 2008 13:09:02 GMT
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On Nov 26, 7:37 am, "Jean H." <jghas...@DELTHIS.ucalgary.ANDTHIS.ca>
wrote:
> mbwel...@gmail.com wrote:
>> Hello,
>
>> I am running the code:
>
>> image = fltarr(nx,ny)
>> deltax = (xrange[1]-xrange[0])/float(nx)
>> deltay = (yrange[1]-yrange[0])/float(ny)
>> for i=0l,ndata-1 do $
>> image[(left[i]-xrange[0])/deltax:(right[i]-xrange[0])/deltax , $
>> (bottom[i]-yrange[0])/deltay:(top[i]-yrange[0])/deltay] =
>> magnitude
>> [i]
>
>> where: nx=ny=180
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>> right now.
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>> Any insight?
>
>> Thanks,
>
>> ~Matt
>
> Hi,
> with the data you provide, you are out of bounds...
> (bottom[i]-yrange[0])/deltay:(top[i]-yrange[0])/deltay] ==> 179:180
> ... 180 is out of bound. Remember that indexing is from 0 to n-1. You
> might want to throw a -1 in your indexes...
> As Chris has suggested it, print your indexes and be sure they are correct!
>
> Jean

That looks distinctly like code I suggested. ;-)

Yes, Jean is exactly right - there should be -1 in both the "top" and
"right" part of the indexing, i.e. replace the current line with:

```
   image[(left[i]-xrange[0])/deltax:(right[i]-xrange[0])/deltax -1, $
    (bottom[i]-yrange[0])/deltay:(top[i]-yrange[0])/deltay-1] =
magnitude[i]
```

Sorry about that!

-Jeremy.

Subject: Re: Having trouble with code for data to image.
Posted by mbweller on Wed, 26 Nov 2008 20:33:55 GMT
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On Nov 26, 5:09 am, Jeremy Bailin <astroco...@gmail.com> wrote:
> On Nov 26, 7:37 am, "Jean H." <jghas...@DELTHIS.ucalgary.ANDTHIS.ca>
> wrote:
>

>
>
>> mbwel...@gmail.com wrote:
>>> Hello,
>
>>> I am running the code:
>
>>> image = fltarr(nx,ny)
>>> deltax = (xrange[1]-xrange[0])/float(nx)
>>> deltay = (yrange[1]-yrange[0])/float(ny)
>>> for i=0l,ndata-1 do $
>>> image[(left[i]-xrange[0])/deltax:(right[i]-xrange[0])/deltax , $
>>> (bottom[i]-yrange[0])/deltay:(top[i]-yrange[0])/deltay] =
>>> magnitude
>>> [i]
>
>>> where: nx=ny=180
>>> xrange= [-180,0]
>>> yrange = [-90,90]
>>> ndata = 32400 (or180^2 or nx*ny)
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>>> and i get the error when I run the code:
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>>> % Subscript range values of the form low:high must be >= 0, < size,
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>
>>> I assume the problem is in the way that my data is ordered, and I have
>>> tried switching lows and highs around, but to no avail. I would
>>> imagine this is pretty simple to solve, but it is not clear to me
>>> right now.
>
>>> Any insight?
>
>>> Thanks,
>
>>> ~Matt
>
>> Hi,
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>> (bottom[i]-yrange[0])/deltay:(top[i]-yrange[0])/deltay] ==> 179:180
>> ... 180 is out of bound. Remember that indexing is from 0 to n-1. You
>> might want to throw a -1 in your indexes...
>> As Chris has suggested it, print your indexes and be sure they are correct!

>
>> Jean
>
> That looks distinctly like code I suggested. ;-)
>
> Yes, Jean is exactly right - there should be -1 in both the "top" and
> "right" part of the indexing, i.e. replace the current line with:
>
>   image[(left[i]-xrange[0])/deltax:(right[i]-xrange[0])/delt ax-1, $
>   (bottom[i]-yrange[0])/deltay:(top[i]-yrange[0])/deltay-1] =
> magnitude[i]
>
> Sorry about that!
>
> -Jeremy.

That fixed the problem! Thank you all for your help; However, as these things often go, I have a new problem.

In trying to run:

```
erase
loadct, 10   ; or whatever you want - the Brewer tables would probably
be useful
location = [0.1,0.1,0.9,0.9]
tvimage, bytscl(image,top=250)+4, position=location
plot, /noerase, /nodata, [0],[0], position=location, xrange=xrange,
yrange=yrange
```

I get an error that I don't quite understand (probably my relative inexperience) with:

```
tvimage, bytscl(image,top=250)+4, position=location

Erase, Color=FSC_Color(background, BREWER=brewer)
                                                ^
% Syntax error.
  At: G:\Mars_tectonics\IDL_programs\tvimage.pro, Line 662

       IF Size(acolor, /TNAME) EQ 'STRING' THEN acolor = FSC_COLOR
(acolor, BREWER=brewer)

^
% Syntax error.
  At: G:\Mars_tectonics\IDL_programs\tvimage.pro, Line 995
% Compiled module: TVIMAGE.
% Attempt to call undefined procedure/function: 'TVIMAGE'.
```

% Execution halted at: $MAIN$

Is this a problem within TVImage, or something I failed to do
correctly?

And Jeremy the code should look familiar ;)
Thanks again for you help

~Matt
