Subject: about color table
Posted by Hu on Thu, 18 Jun 2009 21:40:51 GMT

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Hi, folks

I want to do something like this: I got an 2-D array with values range
from 0.0 to 1.0. and I want to display the array using different
colors. for example, if the value is greater than 0.8, the elements
will be displayed as red, if the values is between 0.5 and 0.8, the
color will be blue, and the relationship can be listed as follows:

> 0.8   red
0.5-0.8   blue
0.3-0.5   yellow
0.2-0.3   green
<0.2   white

I know I need to set up a color table, and the book 'IDL Programming
techniques' demostrate how to set up a color table, and I set up the
table including those above colors.

The question is , How can I set up the relationship between the color
table and the different ranges? I mean how to 'tell' the computer
display the array using this relationship?

Thanks

Subject: Re: about color table
Posted by David Fanning on Sat, 20 Jun 2009 03:58:55 GMT

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Jeremy Bailin writes:

> Yeah, value_locate is very handy for problems like this! I
> particularly like using it as a precursor to histogram - i.e. if you
> want to do something fancy using reverse_indices but don't have
> uniformly-spaced bins, first use value_locate to get integer indices
> and then use histogram to do the heavy lifting.

All right, I'll bite. Let's see an example of this.
Maybe you can write an article and become the JD Smith
of Value_Locate. :-)

Cheers,

David

--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.dfanning.com/
Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Subject: Re: about color table
Posted by Michael Galloy on Sun, 21 Jun 2009 19:46:07 GMT

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David Fanning wrote:
> Jeremy Bailin writes:
>
>> Yeah, value_locate is very handy for problems like this! I
>> particularly like using it as a precursor to histogram - i.e. if you
>> want to do something fancy using reverse_indices but don't have
>> uniformly-spaced bins, first use value_locate to get integer indices
>> and then use histogram to do the heavy lifting.
>
> All right, I'll bite. Let's see an example of this.
> Maybe you can write an article and become the JD Smith
> of Value_Locate. :-)

No article, but I think this is what Jeremy is talking about:

```
IDL> ; get some random data
IDL> d = randomu(12345678L, 20)
IDL> print, d
      0.765989    0.0234537    0.589727    0.535102    0.982231
0.693016    0.328147
      0.295642    0.849918    0.592262    0.558133    0.534926
0.541119    0.594831
      0.410172    0.928598    0.161021    0.928724    0.952072
0.522173

IDL> ; specify cutoffs
IDL> cutoffs = [0.3, 0.4, 0.8]

IDL> ; compute index of "bin" to put each value into
IDL> bins = value_locate(cutoffs, d) + 1L
IDL> print, ind
        2        0        2        2        3
2        1        0
        3        2        2        2        2
2        2        3
```

```
         0        3        3        2

IDL> ; compute histogram of bins
IDL> h = histogram(bins, reverse_indices=r)
IDL> print, h
         3        1       11        5

IDL> ; values less than 0.3
IDL> print, d[r[r[0]:r[1] - 1]]
   0.0234537    0.295642    0.161021

IDL> ; values between 0.3 and 0.4
IDL> print, d[r[r[1]:r[2] - 1]]
   0.328147

IDL> ; values between 0.4 and 0.8
IDL> print, d[r[r[2]:r[3] - 1]]
   0.765989    0.589727    0.535102    0.693016    0.592262
0.558133    0.534926
   0.541119    0.594831    0.410172    0.522173

IDL> ; values greater than 0.8
IDL> print, d[r[r[3]:r[4] - 1]]
   0.982231    0.849918    0.928598    0.928724    0.952072
```

Mike
--
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