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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www.michaelgalloy.com
Associate Research Scientist
Tech-X Corporation
