Subject: Re: cumulative function?
Posted by David Foster on Mon, 27 Jul 1998 07:00:00 GMT
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Alex Schuster wrote:
>
> dschmidt@lanl.gov (David M. Schmidt) wrote:
>
>> Anyone know of a fast (e.g. built-in) way to construct a cumulative
>> vector from a given input vector?
>>
>> The slow way is:
>>
>> Given A(100)
>> C=fltarr(100)
>> C(0)=A(0)
>> For i=1,99 do C(i)=C(i-1)+A(i)
>
> You could use an index array:
>
> index = indgen(99) + 1
> C(0) = A(0)
> C(index) = C(index-1) + A(index)
>
> Or the shift function:
>
> C(99) = 0
> C = shift(C, 1) + A ; or was it -1 ?
>
> Alex

Just wanted to point out that I don't think this is what David is
after, as it won't get you a *cumulative* density function:

```
ind=indgen(20)+1
a=indgen(20)+50
c[0]=a[0]
c[ind] = c[ind-1] + a[ind]
print, c
       50      101       53       55       56       57
       58       60       62       63       64       65
       67       68       69       70       71       72
       73       74       74
```

I checked the code for HIST_EQUAL.PRO, and there is a /HISTOGRAM_ONLY
keyword that is supposed to return the cumulative distribution
histogram. Of course, you won't know about this keyword from reading
the OnLine help because IT ISN'T MENTIONED!! You have to set the

BINSIZE, MAXV, MINV, and TOP keywords explicitly. The problem is,
the routine uses the same "slow method" that David lists earlier!

;   HISTOGRAM_ONLY: If set, return the cumulative distribution
histogram,
;   rather than the histogram equalized array. MAXV, MINV, and
;   BINSIZE will be set, describing the scaling of the histogram,
;   if not specified.

Sorry, but given that it is Monday and I just got back from vacation,
I cannot think of a faster way. If it was really critical you could
write a short C function and call it using CALL_EXTERNAL. I've done
this a lot so feel free to email me if you want help.

Dave
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David S. Foster   Univ. of California, San Diego
Programmer/Analyst   Brain Image Analysis Laboratory
foster@bial1.ucsd.edu   Department of Psychiatry
(619) 622-5892   8950 Via La Jolla Drive, Suite 2240
                        La Jolla, CA 92037
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