Subject: Re: cumulative function?
Posted by wonko on Fri, 24 Jul 1998 07:00:00 GMT
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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
--
Alex Schuster Wonko@weird.cologne.de PGP Key available
alex@pet.mpin-koeln.mpg.de

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:
>
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> C = shift(C, 1) + A ; or was it -1 ?
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> 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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