Subject: Subscripting help
Posted by khyde on Thu, 29 Oct 2015 14:44:23 GMT
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Hello,

I need to convert a large 2D array to a smaller 1D array by taking the mean of several pixels in the 2D array before putting them into known locations in the 1D array (or bin). The challenge is that the number of pixels per bin varies so I don't know how to do it without creating a large loop. I was hoping there was a way I could do it with subscripts, but I haven't been able to figure it out yet.

Here is an example of what I want to do using a loop. It works fine for this example, but my real 2D array is 8640x4320 and I need to move it to a ~5.6 million 1D array and it would take days to run it in a loop.

```
  ARR_2D = FINDGEN(9,10)        ; Input 2D array
  ARR_1D = FLTARR(18)            ; Output 1D array (bins)

; MAKE UP SUBSCRIPTS FOR THE ARRAY TO FIT INTO THE BINS (KNOWN BIN
LOCATIONS)
  SUBS = LONG(ARR_2D)
  S = [REVERSE(INDGEN(9)+1),INDGEN(9)+1]
  FOR N=0, N_ELEMENTS(S)-1 DO BEGIN
    IF N EQ 0 THEN FSUB = 0 ELSE FSUB = LSUB
    IF N EQ 0 THEN LSUB = S(N)-1 ELSE LSUB = FSUB + S(N)
    SUBS(FSUB:LSUB) = N
  ENDFOR


  ; LOOP METHOD
  FOR N=0, N_ELEMENTS(ARR_1D)-1 DO BEGIN
    OK = WHERE(SUBS EQ N, COUNT)
    IF COUNT GE 1 THEN ARR_1D(N) = MEAN(ARR_2D(OK))
  ENDFOR

 PRINT, ARR_2D
 PRINT
 PRINT, ARR_1D
```

Is there a faster way to get the same results? I was trying to figure out a way to do it with subscripts, but haven't had much success.

Thanks for your input.
Kim