Subject: Re: Each time access different part of an array
Posted by Markus Schmassmann on Mon, 10 Jul 2017 13:39:24 GMT
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On 07/06/2017 07:44 PM, dmfl0590@gmail.com wrote:
> I have a 1D array with an odd number of rows, e.g. A=indgen(2435).
>
> I want to split the array A into two parts and first access the entries A[0:1217] and then A[1218:*].
>
> Then I would like to split my array into 4 parts and access each part every time.
> Then split the matrix into 8 parts and so on.

```
  A=indgen(2435)
dd=ceil(alog2(n_elements(A)))
ll=lonarr(2^dd*2,2)
ll[1,1]=n_elements(A)-1
for j=1,dd do begin & $
ll[2^j  :2^j*2-1:2,0]=ll[2^j/2:2^j-1,0] & $
ll[2^j+1:2^j*2-1:2,0]=ll[2^j/2:2^j-1,0] $
    +(ll[2^j/2:2^j-1,1]+1-ll[2^j/2:2^j-1,0])/2 & $
ll[2^j  :2^j*2-1:2,1]=ll[2^j/2:2^j-1,0] $
    +(ll[2^j/2:2^j-1,1]+1-ll[2^j/2:2^j-1,0])/2-1 & $
ll[2^j+1:2^j*2-1:2,1]=ll[2^j/2:2^j-1,1] & $
endfor

; just for demonstration purposes print indices
for j=0,5 do print, ll[2^j  :2^j*2-1,*], $
    format='(2('+string(2^j,format='(i0)')+'i' $
    +string(5*2^(5-j),format='(i0)')+',"'+string(10b)+'"))'

; ll can then be used to index A

a1=A[ll[1,0]:ll[1,1]]
a2=A[ll[2,0]:ll[2,1]]
a3=A[ll[3,0]:ll[3,1]]
```

I hope that helps, however using the divide & conquer strategy is better done in a lower level language than IDL.

Good luck anyway, Markus

ps: When your array has more than 32767 elements, use
COMPILE_OPT idl2 or COMPILE_OPT DEFINT32
or replace all 2 by 2l