Subject: Re: Having trouble stopping a loop (or loop de loop de loop)
Posted by Spon on Tue, 26 Aug 2008 11:57:55 GMT
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On Aug 26, 6:09 am, Chris <beaum...@ifa.hawaii.edu> wrote:
> this will hopefully get you started...
;;;

```
 ; Some sample data
seed = 12L
a = 0.5
u = 1e3
e_t = 1.4
file = randomu(seed, 2, 200) * 1e2

 ; Open the file at the start as Chris Beaumont suggested
output =  'g:\Mars_tectonics\IDL_programs\paper_m_data\alba_eflank.txt '
openw, lun, /get_lun, output

 ; Extract the column of data rather than lugging
 ; around the entire 'file' array. This also
 ; simplifies indexing in the program
column = file[1,*]

 ; Use IF rather than WHILE to prevent getting trapped
if e_t lt 2 then begin

   ; You can vectorise out this loop too,
   ; but indexing gets messy and it uses
   ; a LOT of memory on my machine
  for n = 1, 5 do begin
    x = n*4e3
    v = a*x

     ; You only need one call to WHERE if the
     ; complement keywords are used
    ind_small = where(column lt 2*x, count, $
      complement = ind_large, ncomplement = compcount)
    if count eq 0 then te_small=0 else begin
      le_small = column[ind_small]
      te_small = total(le_small^3)
    endelse
    if compcount eq 0 then te_large=0 else begin
      le_large = column[ind_large]
      te_large = total(le_large)
    endelse

     ; Vectorisation of inner two FOR loops
```

```
    o = rebin(50.0*!pi/180.0 + findgen(3) * (10.0*!pi/180.0), 3,2)
    c = rebin(transpose([0.06, 0.1]), 3,2)

    kns=(sin(o)*cos(o)/v)
    knl=(c*cos(o)*x/a/sin(o))

    ens= (kns*c/u)*te_small
    enl=  knl*te_large
     ; e_t is now a (3*2) array
    e_t= ens+enl

     ; this replaces the simple 'if' statement
     ; in the original code
    ind1 = where(e_t ge 0.45, c1)
    ind2 = where(e_t le 0.9, c2)

     ; Any indices that fulfil our criteria?
    if (c1 gt 0) && (c2 gt 0) then begin
      ind3 = setintersection(ind1, ind2)
      if ind3[0] ge 0 then begin

         ; If so, write to file
        c3 = n_elements(ind3)
         ; There's got to be a better way of writing
         ; to file than looping through, but I can't
         ; get my head around it right now :-)
        for i = 0, c3-1 do begin
          j = ind3[i]
          printf, lun, x, c[j], o[j], e_t[j], format='(4f9.4)'
        endfor

      endif
    endif

  endfor
endif

 ; close the file
free_lun, lun

;;; END
```

Regards,
Chris