
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

endif

endfor
endif

; close the file
free_lun, lun

;;; END

Regards,
Chris

```
