
Subject: Baffled by out of range subscript error

Posted by [Med Bennett](#) on Mon, 08 Aug 2016 16:23:01 GMT

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I'm mystified by this error. Below is a code fragment from a routine that interpolates a value into a three-dimensional array based on nearby data, weighted by sample length and inverse distance squared. My 3D array is 177 by 127 by 28, but I get an error stating out of range subscript at [i,j,k] = [170,21,23], which are clearly not out of range, and this routine worked perfectly last week, before I added the length weighting part. Does anyone have any suggestions or spot the problem?

```
hc_bm_id2 = fltarr(177,127,28)
for i=0,176 do begin
  xb = xax[i]

  for j=0,126 do begin
    yb = yax[j]

    for k=0,27 do begin
      zb = zax[k]

      d = sqrt((xb - x_hc3d)^2 + (yb - y_hc3d)^2 + 10.*(zb - z_hc3d)^2)
      w = where(d le 100.,c)
      s = sort(d[w])
      if c gt 8 then s = s[0:7]
      w = w[s]
      d = d[w]
      length = hc_length[w]
      weights = (1./d^2 * length)/total((1./d^2 * length))
      ==> if c gt 0 then hc_bm_id2[i,j,k] = hc_fraction[w] * weights

    endfor
  endfor
endfor
=====

% Out of range subscript encountered: HC_BM_ID2.
% Execution halted at: $MAIN$          21 E:\Fulton\hc_model.pro
IDL> print,i,j,k
    170    21    23
IDL> help,hc_bm_id2
HC_BM_ID2    FLOAT    = Array[177, 127, 28]
IDL> help,hc_bm_id2[i,j,k]
<Expression>  FLOAT    =    0.000000
```

Subject: Re: Baffled by out of range subscript error
Posted by [wlandsman](#) on Mon, 08 Aug 2016 17:18:20 GMT
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On Monday, August 8, 2016 at 12:23:09 PM UTC-4, Med Bennett wrote:

> My 3D array is 177 by 127 by 28, but I get an error stating out of range subscript at [i,j,k] = [170,21,23], which are clearly not out of range,

It could be out of range if the right hand side is a vector. Can you give the help output for

hc_fraction[w] * weights

?

```
> weights = (1./d^2 * length)/total((1./d^2 * length))
> ==> if c gt 0 then hc_bm_id2[i,j,k] = hc_fraction[w] * weights
>
> endfor
> endfor
> endfor
> =====
>
> % Out of range subscript encountered: HC_BM_ID2.
> % Execution halted at: $MAIN$          21 E:\Fulton\hc_model.pro
> IDL> print,i,j,k
> 170 21 23
> IDL> help,hc_bm_id2
> HC_BM_ID2  FLOAT  = Array[177, 127, 28]
> IDL> help,hc_bm_id2[i,j,k]
> <Expression>  FLOAT  = 0.000000
```

Subject: Re: Baffled by out of range subscript error
Posted by [Med Bennett](#) on Mon, 08 Aug 2016 17:29:04 GMT
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I forgot to do total(hc_fraction[w]*weights) - doh!

Thanks so much!
