
Subject: Repeats and Triangulation

Posted by [Ben Tupper](#) on Mon, 26 Feb 2001 19:09:52 GMT

[View Forum Message](#) <> [Reply to Message](#)

Hello all,

Just when I thought I had a handle on making polyline descriptors (for the IDLgrPolyLine object) I bumped into something tricky and over my head.

The short routine below will triangulate a small set of points and then display the Delaunay triangulation graphically (a direct graphics plot and an xObjView display of an IDLgrPolyline.) The routine can be called with the keepReps keyword set which will introduce two extra points in the data set (each of which repeats an existing point.) Call the routine without the keyword to see how it is supposed to behave. Then try it with the keepReps keyword set... and it will fall apart. The value of REPEATS is printed each time it is called.

The REPEATS keyword to TRIANGULATION returns a 2,n element array of pairs indices of repeated values. If no values are repeated then REPEATS = [-1,-1]. My question is 'How do I pull out the repeated values efficiently?'

Thanks,

Ben

```
;-----START
PRO Test, keepReps = keepReps

;make x and y
if keyword_set(keepReps) then begin
  x = [2,5,2,2,2,4,9]
  y = [1,3,5,5,5,5,8]
endif else begin
  x = [2,5,2,4,9]
  y = [1,3,5,5,8]
endelse
;make a z value
z = (x-y)^2

; triangulate
triangulate, x, y, tr, b, connectivity = conn, repeats = rep
```

```

;show the results as a bird's eye view
;as shown in online help
plot, x,y,psym = 6
; Show the triangles:
for i=0, n_elements(tr)/3-1 do begin
    t = [tr[*],i], tr[0,i]]
    plots, x[t], y[t] , linestyle = 2
endfor

;make the polygon descriptor (see IDLgrPolyLine)
List = Conn[Conn[0]:Conn[1]-1L]
Ptr = Ptr_NEW([N_elements(List),List])
For i = 1, n_elements(X) -1 DO Begin
    List = Conn[conn[i]:Conn[i+1]-1]
    *Ptr = [*Ptr, n_elements(List), List]
EndFor

Poly = *Ptr & Ptr_Free,Ptr

poly1 = obj_new('idlgrpolyline', x,y,z, polylines = poly)

xobjview, poly1,/modal

if obj_valid(poly1) then obj_destroy, poly1
End
;-----FINISH
--
Ben Tupper
248 Lower Round Pond Road
POB 106
Bristol, ME 04539

Tel: (207) 563-1048
Email: PemaquidRiver@tidewater.net

```
