
Subject: Re: Strange behavior of POLYFILL
Posted by [Xavi Llor](#) on Fri, 23 Sep 2011 09:48:58 GMT
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Thank you very much for the alternative!

It works (below there is a piece of code comparing against POLYFILLV), but the computational is quite high, specially searching in a large number of points.

In my case (a 1024 by 1024) the overall time goes from ~1.E-5 secs of POLYFILLV to ~2 secs of Ronn Kling's routine, and I cannot afford.

Is this a bug of POLYFILLV? Does anyone experienced similar problems?

Thanks again for your help,
Xavi Llor

```
PRO POLY_HELL_2
dim_x = 1024 & dim_y = 1024
lon_res = 0.02 & lat_res = 0.02
lon_arr = FINDGEN(dim_x)*lon_res - 12.99
lat_arr = FINDGEN(dim_y)*lat_res + 29.53
triangle_xx = [-4.27, -4.3221145, -4.3234300, -4.27]
triangle_yy = [35.449997, 35.535344, 35.365467, 35.449997]

;
*****
; POLYFILL calculus
t0 = SYSTIME(/SEC)
xx_n = (triangle_xx - lon_arr[0]) / lon_res + 1.
yy_n = (triangle_yy - lat_arr[0]) / lat_res + 1.
points_in = POLYFILLV(xx_n, yy_n, dim_x, dim_y)
lap1 = SYSTIME(/SEC) - t0

DEVICE, DEC=0
LOADCT, 5
WINDOW, 0, XSIZE=800, YSIZE=800, TITLE='RESULT WITH POLYFILL'

PLOT, triangle_xx, triangle_yy, PSYM=-4, XR=[-4.39, -4.15], XSTYLE=1,
$
  YR=[35.33, 35.57], YSTYLE=1
lon_mat = REBIN(lon_arr, dim_x, dim_y)
lat_mat = REBIN(TRANPOSE(lat_arr), dim_x, dim_y)
OPLOT, lon_mat, lat_mat, psym=1, SYMSIZE=0.7
OPLOT, lon_mat[points_in], lat_mat[points_in], psym=4, SYMSIZE=1.4,
COLOR=115, THICK=2.
```

```

;
;*****
; Ron Kling calculus
t1 = SYSTIME(/SEC)
lon_vals = REFORM( REBIN(lon_arr, dim_x, dim_y), dim_x*dim_y)
lat_vals = REFORM( REBIN(TRANSPPOSE(lat_arr), dim_x, dim_y),
dim_x*dim_y)
data = TRANSPPOSE([[lon_vals],[lat_vals]])
connect = REFORM( INDGEN(3),3,1)
points_in_Kling = pointInsideApolygon (triangle_xx[0:2],
triangle_yy[0:2], connect, data)
lap2 = SYSTIME(/SEC) - t1

WINDOW, 1, XSIZE=800, YSIZE=800, TITLE='RESULT WITH RONN KLING
ROUTINE'
PLOT, triangle_xx, triangle_yy, PSYM=-4, XR=[-4.39, -4.15], XSTYLE=1,
$
YR=[35.33, 35.57], YSTYLE=1
OOPLOT, lon_vals, lat_vals, psym=1, SYMSIZE=0.7
OOPLOT, lon_vals[points_in_Kling], lat_vals[points_in_Kling], psym=4,
SYMSIZE=1.4, COLOR=115, THICK=2.

PRINT, ''
PRINT, '*** POLYFILL used ' + STRING(lap1,FORMAT='(E9.3)') + '
seconds'
PRINT, '*** Ronn Kling used ' + STRING(lap2,FORMAT='(E9.3)') + '
seconds'

END

```
