Subject: Problems using CURSOR
Posted by hahn on Wed, 17 Jan 1996 08:00:00 GMT
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Hi,

My IDL program generates output on a terminal (either X Windows System or MS Windows) and wants to return 4 coordinate pairs the users selects. However, the following program waits only once for input and returns 4 time the same coordinates. The problem occurs with both IDL version 3.6.1b and 4.0.1 on both Unix and MS Windows, so I guess I might have overlooked some basic fundamentals using CURSOR.

The following procedure is called after Set_plot, 'x':

```
pro rd4
;
xr=[0,300] & yr=[-4000,4000]
;
;  Some test data
dat = [100,200,-50,-300,-1200,-3000,-2000,0,500,800,3000,2400]
x = IndGen(12)*28

Plot, x, dat, xrange=xr, yrange=yr
;
;Position the cursor at the center of the drawing area
;
tvcrs, 150, 0, /data

Print, 'Enter 4 coordinates by clicking the left mouse key'

xin = FltArr(4) & yin = xin

for i=0,3 do begin
    cursor,  isx, isy, wait=3
    xin(i) = isx
    yin(i) = isy
    print, isx, isy
endfor
end
```

What is wrong ?

Norbert Hahn

Subject: Re: Problems using CURSOR

hahn@hrz.th-darmstadt.de (Norbert Hahn) wrote:
> Hi,
>
> My IDL program generates output on a terminal (either X Windows System
> or MS Windows) and wants to return 4 coordinate pairs the users
> selects. However, the following program waits only once for input and
> returns 4 time the same coordinates.

snip, snip

>
> for i=0,3 do begin
> cursor, isx, isy, wait=3
> xin(i) = isx
> yin(i) = isy
> print, isx, isy
> endfor
> end
>
> What is wrong ?

The WAIT keyword to the cursor procedure causes the cursor procedure to wait until a mouse button is pressed or to return immediately if the mouse button is already pressed. Using wait=3 has the same meaning as just /WAIT. I suspect that you have confused the WAIT keyword with the Wait argument to the cursor function. See the documentation.
What is happening with your program is that your mouse finger is too slow. When you click the mouse, your program polls the state of the mouse several times while the button is still down and completes the loop. What you really want is for CURSOR to wait until a button transition occurs.
You could have supplied the wait argument (not keyword) by:

cursor, isx, isy, 3

This would have caused CURSOR to return when a mouse button was depressed.
Alternately, (and better for readability) you could have written:

cursor, isx, isy, /DOWN

NOTE: Using X-Windows over a network is slow enough that this problem may only occur intermittently and produce a real bothersome and hard to notice and locate feature in your code.

I hope this helps.

Ken Knighton
Fusion Division
General Atomics
San Diego, CA

Subject: Re: Problems using CURSOR
Posted by M.Reuss on Thu, 18 Jan 1996 08:00:00 GMT
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It is certainly a nasty behaviour.

To overcome it, you should insert the line

CURSOR,xdummy,ydummy,4

directly after your CURSOR,isx,... call.

This forces IDL to wait for the button to be RELEASED again.

BTW:

CURSOR,isx,isy,wait=3

is probably not what you meant to code. (wait in the description is a
parameter, not a keyword)
To make the procedure return at the button-down transition, you type either

CURSOR,isx,isy,/down

or

CURSOR,isx,isy,3

Your command made IDL wiat for the button being depressed.
However, correcting this does not change the nasty behaviour you noticed,
so that the CURSOR,...,...,4 call is necessary

Best regards

Matthias Reuss (reuss@osf1.mpae.gwdg.de)