Subject: Recursion in IDL
Posted by sterner on Fri, 02 Apr 1993 14:57:09 GMT
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One of the least used features of IDL may be recursion. But it's
there and works very well. I suspect there are some rather impressive
graphics routines that could be written using recursion. Below is
a very basic routine to show how recursion may be used to easily make
elaborately detailed plots. It is intended to show the needed parts
of a recursive graphics routine, not to be an example of a spectacular
plot. Try it in a screen window.

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;------------------------------------------------------------ ---------
; rec1.pro = recursion example 1.
; R. Sterner, 2 Apr, 1993
; Draw branches from center of a square out to corners, then
; recursively do the same for smaller squares centered at
; each corner.
; Syntax: rec1, x, y, s
; x,y = device coordinates of ceneter of a square,
; s = half size of square.
; Example call for a default screen window: rec1, 320, 256, 100
; Works in device coordinates so needs modified for PostScript.
;------------------------------------------------------------ ----------

pro rec1, x, y, s

;-------  Recursion exit condition  ---------
if s lt 1 then return  ; Too small to continue.

;-------  Find corners of square  ------------
x1 = x+s  &  y1 = y+s  ; Corner 1.
x2 = x-s  &  y2 = y+s  ; Corner 2.
x3 = x-s  &  y3 = y-s  ; Corner 3.
x4 = x+s  &  y4 = y-s  ; Corner 4.
;-------  Plot branches  ---------------------
plots,/dev,[x,x1],[y,y1] ; Draw branch 1.
plots,/dev,[x,x2],[y,y2] ; Draw branch 2.
plots,/dev,[x,x3],[y,y3] ; Draw branch 3.
plots,/dev,[x,x4],[y,y4] ; Draw branch 4.
;---  Recursively work on each corner  -------
rec1, x1, y1, .45*s
rec1, x2, y2, .45*s
```

```
rec1, x3, y3, .45*s
rec1, x4, y4, .45*s

return
end
```

Subject: Re: Recursion
Posted by davidf on Mon, 14 Sep 1998 07:00:00 GMT
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Martin Vissers (martin.vissers@users.whh.wau.nl) writes:

> Does anybody know how many times a procedure
> can be called recursively ??
>
> I have a small program which gives problems if its
> called more then 20 times

I think this could have been a problem with earlier versions
of IDL, but I believe recent removing of certain program
restrictions has eliminated most of these problems.

What sort of problems?

Cheers,

David

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