Subject: Re: chunk indexing like
Posted by Wout De Nolf on Sun, 10 Jan 2010 16:05:20 GMT
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On Sun, 10 Jan 2010 08:07:00 -0700, David Fanning <news@dfanning.com>
wrote:

> But the
> question, as far as I know, has never been presented
> with its context.

Ok, you asked for it :-).

Suppose you have two lines crossing a NxN grid.
t=lindgen(N+1)-0.5 ; the grid
y1=m1*t+b1 ; line 1
y2=m2*t+b2 ; line 2

Now you want to calculate the area of each pixel of the NxN grid that
is covered by the area between the two lines. This is illustrated in
(lines don't have to be parallel) http://xrdua.ua.ac.be/public/tmp.jpg

To do this I first take all intersections between the two lines and
the hor. and vert. gridlines:

x=[t,(t-b1)/m1,t,(t-b2)/m2]
y=[y1,t,y2,t]

Then I add grid nodes that are in between the two lines

```
y1=round(y1)
y2=round(y2)
nadd=y2-y1
if total(nadd) ne 0 then begin
  xadd=chunkindex(nadd)
  yadd=chunklindgen(nadd)   ; THIS WAS MY QUESTION
  x=[x,xadd-0.5]
  y=[y,y1[xadd]+yadd+0.5]
endif
```

Then I use TRIANGULATE to make triangles. Each triangle lies within 1
pixel so calculating the area and the center of the triangles will
solve my original problem (an additional drizzling is used because 1
pixel will be the sum of several triangles). Some triangles have to be
rejected too.

So the "chunked lindgen" (my question) is used to calculate y
coordinates of grid nodes between the two lines. For each x there are

zero or more grid nodes, hence the need for some "chunked lindgen".