Subject: Re: pixel coordinates of a line
Posted by tam on Thu, 28 Jun 2001 13:33:54 GMT
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Marc Schellens wrote:
>
> Oh, I forgot:
> I have the start and endpoint, but they might need to be clipped
> to the images boders...
>
>> I want to extract pixels along a line.
>> I know start and endpoint (ie. I draw the line in top of the
>> image).
>> How to get the pixel values? Do I have to do it 'by hand'?
>>
>> thanks,
>> marc

Working in pixel coordinates you have the endpoints (sx,sy,ex,ey) and the clipping rectangle (x0,y0, x1, y1), so you should trivially be able to get the equation of the line

```
y = m x + b    [ m= (ey-sy)/(ex-sx), b = sy - m sx ]
```

Turn this into IDL...

```
x = lindgen(x1-x0) + x0
y = floor (m * x + b + 0.5)    [add 0.5 to get appropriate rounding]
w = where (y ge y0 and y le y1)
if (w[0] ne -1) then begin
   x = x(w)
   y = y(w)
endif else begin
   .... line is outside clipping rectangle
endelse
```

Here I'm assuming integral values for x0,x1, y0,y1 but not necessarily the end points.

There are probably subtleties I've missed but this seems like a reasonable start. Whether it will exactly match the pixels that IDL will draw on is hard to say... Guess we'd need to know exactly how IDL draws a line.

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[Mailed and posted]