
Subject: Re: Point of intersection
Posted by [Wox](#) on Thu, 31 Jul 2008 08:51:15 GMT
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On Wed, 30 Jul 2008 08:46:30 -0700 (PDT), kishore1818@gmail.com wrote:

> ...how to find out that
> particular intersection x and y value.

The could below works for any x and y values but might be simplified
in your case (special y values).

```
function segmentintersect,L1x,L1y,L2x,L2y,xy=xy
```

```
; code:  
; 0: no intersecting  
; 1: intersect in 1 point  
; 2: parallel  
; 3: coincident
```

```
denom=float(L2y[1]-L2y[0])*(L1x[1]-L1x[0])-(L2x[1]-L2x[0])*( L1y[1]-L1y[0])  
numa=(L2x[1]-L2x[0])*(L1y[0]-L2y[0])-(L2y[1]-L2y[0])*(L1x[0] -L2x[0])  
numb=(L1x[1]-L1x[0])*(L1y[0]-L2y[0])-(L1y[1]-L1y[0])*(L1x[0] -L2x[0])
```

```
if denom eq 0 then code= (numa eq 0 and numb eq 0)+2 $  
else begin  
  ua = numa / denom  
  ub = numb / denom
```

```
  code= ua ge 0 and ua le 1 and ub ge 0 and ub le 1  
  if code then $  
  xy=[L1x[0]+ua*(L1x[1]-L1x[0]),L1y[0]+ua*(L1y[1]-L1y[0])]  
endelse
```

```
return,code  
end;function segmentintersect
```

```
;%%%%%%%%%%%%%%  
%%%%%%%%%%%%%% %%%%%%%%%%
```

```
pro segtest
```

```
x1=[0.1,0.2,0.6,0.7]  
x2=[0.5,0.4,0.5,0.3]
```

```

y1=[1,2,3,4]
y2=y1

window
plot,x1,y1,psym=-2
oplot,x2,y2,psym=-2

n=n_elements(x2)
y2_1=interpol(y1,x1,x2)
b=y2_1 gt y2
interval=where(b[0:n-2]-b[1:*],ct)
if ct ne 0 then begin
  xy=fltarr(2,ct)
  for i=0,ct-1 do begin
    j=interval[i]
    L2x=x2[j:j+1]
    L2y=y2[j:j+1]
    j=value_locate(x1,L2x)
    k=0
    repeat begin
      L1x=x1[j[k]:j[k]+1]
      L1y=y1[j[k]:j[k]+1]
      code=segmentintersect(L1x,L1y,L2x,L2y,xy=tmp)
      b=code eq 1
      if b then begin
        xy[*,i]=tmp
        plots,[tmp[0],tmp[0]],,[0,tmp[1]],/data
      endif
      k++
    endrep until b or (k eq 2)
  endfor
endif

end;pro segtest

;%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

```
