Subject: Re: Arc of a circle
Posted by Craig Markwardt on Wed, 21 Apr 2010 03:01:06 GMT
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On Apr 20, 9:16 pm, Fred <fedef...@gmail.com> wrote:
> Hello! simple question: does anybody know how to draw an arc of a
> circle in plot. A circle can be easily created, knowing the center
> coordinates and radius, through the routine "tvcircle". What I am
> mising is how to create a simple arc subtending an arbitrary angle.

Are you familiar with cosines and sines? The set of points X, Y

X = X0 + R*COS(TH)
Y = Y0 + R*SIN(TH)

where TH is an array spanning 0 to 2*!DPI, is a circle centered on
(X0,Y0).

If you choose a smaller span of angles, then you will get a circular
arc instead of a full circle.

Craig

Subject: Re: Arc of a circle
Posted by jeanh on Wed, 21 Apr 2010 17:24:59 GMT
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On 20/04/2010 9:16 PM, Fred wrote:
> Hello! simple question: does anybody know how to draw an arc of a
> circle in plot. A circle can be easily created, knowing the center
> coordinates and radius, through the routine "tvcircle". What I am
> mising is how to create a simple arc subtending an arbitrary angle.
> Thanks!
> Fred

Hi Fred,
here is a function I have that does basically what Craig just described.
This functions makes a pie (connects the arc to the center point), so
feel free to remove the 1st and last point to remove this part.

Jean

function pie, x_center,y_center, radius, angle_base, angle_arc, radian =
radian
;return a 2*102 array providing the coordinates of a pie. (straight
line from the center to the begining of the

```
 ; arc, the arc, straight line from the end of the line to the center
point.)
 ;The user can draw the pie as lines or as a polygon
 ;
 ;example:
 ; POLYFILL, pie(0,0,10,45,90)
 ; PLOTS, pie(0,0,10,45,90)

 ;INPUTS:
 ; X_center, Y_center: the coordinates of the center of the pie
 ; radius: the radius of the pie
 ; angle_base: arc of the pie will start to be drawn at this angle
 ; angle_arc: the other end of the arc will be at "angle_arc" degree
COUNTERclockwise from the begining of the arc
 ;
 ;KEYWORD:
 ; radian: set if the anles are specified in Radian. Default is Degree
 ;
 ;AUTHOR: Jean-Gabriel Hasbani  jean-gabriel@.......hasbani.......ca
(remove the dots)
 ;       March 2008

 if n_elements(angle_arc) eq 0 then return,-1

 angle_base_PIE = 1.0 * angle_base
 angle_arc_PIE = 1.0 * angle_arc

 if ~keyword_set(radian) then begin
  angle_base_PIE = angle_base_PIE * !DtoR
  angle_arc_PIE = angle_arc_PIE * !DtoR
 endif

 ;get 100 points defining the arc
     arc_points = ((angle_arc_PIE / 99.0) * FINDGEN(100))+angle_base_PIE
     arc_x = x_center + radius * COS(arc_points)
     arc_y = y_center + radius * SIN(arc_points)

 ;Add a straigth line from the center to the start and end points of the arc
 x = [x_center, arc_x, x_center]
 y = [y_center, arc_y, y_center]

 arc_x = 0B
 arc_y = 0B

 ;Create a 2 * 102 array of coordinates
 pts = TRANSPOSE([[x],[y]])

 RETURN, pts
```

end