
Subject: Re: circles

Posted by [Martin Lizak \(NEI\)](#) on Wed, 09 Jul 1997 07:00:00 GMT

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lady of the elves wrote:

>

> [incidentally, I'm new to this language :)]

A simpler way to to that is as follows

```
function makecircle
```

```
im=bytarr(200,200)
```

```
; if you make the angular resolution too small, you'll have blank lines
```

```
theta=findgen(1000)*!pi/1000. - !pi/2.
```

```
for i=0,999 do begin
```

```
  y=fix(99.*sin(theta(i)))+100
```

```
  xmin=-fix(99.*cos(theta(i)))+100
```

```
  xmax=fix(99.*cos(theta(i)))+100
```

```
  im(xmin:xmax,y)=2
```

```
endfor
```

```
return,im
```

```
end
```

>

> I'm trying to create a two-dimensional array, such that tvscl of the

> array will show a filled circle. So far, my best idea has not

> worked--but here it is:

>

.

.

> I would really like to have a circularly-filled array; if anyone has

> better knowledge, please let me know :)

> Thanks.

> -gzb

Subject: Re: circles

Posted by [David Foster](#) on Wed, 09 Jul 1997 07:00:00 GMT

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lady of the elves wrote:

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>

> I'm trying to create a two-dimensional array, such that tvscl of the

> array will show a filled circle. So far, my best idea has not

> worked--but here it is:

>
> x and y are one-D arrays of 200 elements such that plot,x,y produces a
> circular shape, but not filled.
>

You can use the POLYFILLV to get the subscripts of the circular region defined by vectors X and Y:

```
circle = polyfillv(x,y,xarray_size,y_array_size)
if (circle(0) ne -1 ) then array(circle) = 2
```

or you can use the POLYFILL procedure to fill the circle directly on the graphics device.

Dave

--

~~~~~  
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~~~~~

"I have this theory that if we're told we're bad,
then that's the only idea we'll ever have.
But maybe if we are surrounded in beauty,
someday we will become what we see." - Jewel Kilcher

Subject: Re: circles
Posted by [pit](#) on Thu, 10 Jul 1997 07:00:00 GMT
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In article <33C3DE74.356F@mad.scientist.com>,
lady of the elves <galadriel@mad.scientist.com> writes:
> [incidentally, I'm new to this language :)]
>
> I'm trying to create a two-dimensional array, such that tvscl of the
> array will show a filled circle. So far, my best idea has not

Hm, maybe the easiest way to create an array of dimension
(X,Y) with a circle of radius R at location x0,y0) would be:

```
img = (shift(dist(X,Y),x0,y0)) LT R
```

DIST: creates an array (X,Y) (in FFT-segmented form, but thats not important for the moment) where each element contains the distance from (0,0)

SHIFT -> Shift (0,0) to desired center of circle

array LT value will result in an byte array that is 1 where the value (=distance) is lower than the radius, and 0 everywhere else.

TVSCLing img will show the circle

Peter

--

~~~~~  
~~~~~

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Tel.: +49 551 39-5048 pit@uni-sw.gwdg.de

-- * -- * ...-- * -- * ...-- * -- * ...-- * -- * ...-- * -- * ...-- * --

Come and see the stars! <http://www.kis.uni-freiburg.de/~ps/SFB>
Sternfreunde Breisgau e.V. Tel.: +49 7641 3492

Subject: Re: circles

Posted by [Joseph M Zawodny](#) on Thu, 10 Jul 1997 07:00:00 GMT

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lady of the elves wrote:

>

> [incidentally, I'm new to this language :)]

>

> I'm trying to create a two-dimensional array, such that tvscl of the

> array will show a filled circle. So far, my best idea has not

> worked--but here it is:

>

> x and y are one-D arrays of 200 elements such that plot,x,y produces a

> circular shape, but not filled.

>

> for round1=0,199 do begin

> for round2=0,199 do begin

> if (y(round1) eq y(round2)) then begin

> circle(y(round1),x(round1):x(round2))=2

> endif

> endfor

> endfor

>

> A circle is composed of boundary points such that: for each x, there are

> two y's and for each y, there are two x's--right? If I fill between the
> y's, I should have a circle....right?
>
> I would really like to have a circularly-filled array; if anyone has
> better knowledge, please let me know :)
> Thanks.
> -gzb

Select the center coordinates (xc,yc) for the circle in pixels (these need not be integers). If your array is (201,201) and you want the circle centered set the center values each to 100.

Select the radius of the circle in pixels (again, need not be integer).

For every element in the array (x,y) check to see if $((x-xc)^2 + (y-yc)^2)$ is less than or equal to the radius.

If it is, then set it to the "filled" value.

Naturally, this process can be done without loops.

Have fun,

JMZ

--

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Subject: Re: circles
Posted by [Kevin Reardon](#) on Fri, 11 Jul 1997 07:00:00 GMT
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lady of the elves wrote:

>
> I would really like to have a circularly-filled array; if anyone has
> better knowledge, please let me know :)
> Thanks.

The most direct way get an array of distances from some central point in IDL is:

;for a circle centered at (150,50)

```
xx = rebin(findgen(201,201) - 150,201,201)
yy = rebin(findgen(1,201) - 50,201,201)
```

```
radial_distance = sqrt(xx^2 - yy^2)
```

```
tvscf,radial_distance le 50 ; displays a white filled circular mask
```

The previous suggestion by Peter Suetterlin (pit@uni-sw.gwdg.de) of:

```
img = (shift(dist(X,Y),x0,y0)) LT R
```

doesn't seem to work if x0 and y0 are not equal to X/2 and Y/2 (i.e. the circle is not centered) because of wrapping problems when the array is shifted.

kevin

kreardon@na.astro.it
