Subject: Re: Intersecting geometric shapes
Posted by Rick Towler on Fri, 29 Jun 2001 06:00:22 GMT
View Forum Message <> Reply to Message

I'm sure there is a more elegant way of doing this but since your post has sat here all day without a response...

Fire up your favorite drawing program and create a new image, say 200x200. Draw your circle white on black. Now create another 200x200 image this time drawing your rectangle. Save as an indexed color image (.gif (pre IDL 5.4) or .png should work)

load these images into IDL, add the arrays, and do a where on the new array for values that are double your white color palette index value. The number of elements in the result of your where will give you the pixel area of your intersection. Then all you have to do is convert pixel area back to your measure of area.

There are a lot of details. You have to scale your original shapes correctly, converting from your measure to pixel area. Then you need to arrange your shapes in your image correctly. Also, you have to figure out how your image program indexes the color palette (this is easy, just print the image data out. You only have two colors and you'll see two values. They may be 0 and 1. They may be 0 and 255. It depends on the program you use to write the images).

This is a pretty simple approach. You could spice it up so it is more flexible.

-Rick

"Joe Means" <means@fsl.orst.edu> wrote in message news:3B3B8421.3080005@fsl.orst.edu...
> Hello IDL group,
> I need to calculate the area of intersecting geometric shapes. Right
> now a circle and rectangle. Does nayone know of code to do this?
>
> --
> Joseph E. Means
> Assistant Professor, joe.means@orst.edu
> Department of Forest Science
> Oregon State University
> Corvallis, OR 97331-5752
> 541-750-7351
>

Subject: Re: Intersecting geometric shapes
Posted by m.hadfield on Fri, 29 Jun 2001 06:14:12 GMT
View Forum Message <> Reply to Message

From: "Rick Towler" <rtowler@u.washington.edu>
Newsgroups: comp.lang.idl-pvwave
Sent: Friday, June 29, 2001 6:00 PM
Subject: Re: Intersecting geometric shapes

> I'm sure there is a more elegant way of doing this but since
> your post has sat here all day without a response...

I was reticent for exactly the same reason, but since you've poked your head above the parapet...

> Fire up your favorite drawing program and create a new
> image, say 200x200. Draw your circle white on black. Now
> create another 200x200 image this time drawing your rectangle.
> Save as an indexed color image (.gif (pre IDL 5.4)
> or .png should work)
>
> load these images into IDL, add the arrays, and do a where on
> the new array for values that are double your white color palette
> index value. The number of elements in the result of your where will
> give you the pixel area of your intersection. Then all you have to do
> is convert pixel area back to your measure of area.

I'd like to point out that you can do essentially the same thing without actually drawing anything using the POLYFILLV function.

Of course drawing the shapes out with POLYFILL to check what you're doing isn't a bad idea either...

Mark Hadfield
m.hadfield@niwa.cri.nz http://katipo.niwa.cri.nz/~hadfield
National Institute for Water and Atmospheric Research

--
Posted from clam.niwa.cri.nz [202.36.29.1]
via Mailgate.ORG Server - http://www.Mailgate.ORG

Subject: Re: Intersecting geometric shapes

Posted by Joe Means on Fri, 29 Jun 2001 16:25:07 GMT
View Forum Message <> Reply to Message

Thanks to Rick and Mark for your thoughtful responses.
Joe Means

Mark Hadfield wrote:

> From: "Rick Towler" <rtowler@u.washington.edu>
> Newsgroups: comp.lang.idl-pvwave
> Sent: Friday, June 29, 2001 6:00 PM
> Subject: Re: Intersecting geometric shapes
>
>
>> I'm sure there is a more elegant way of doing this but since
>> your post has sat here all day without a response...
>
>
> I was reticent for exactly the same reason, but since you've poked your head
> above the parapet...
>
>> Fire up your favorite drawing program and create a new
>> image, say 200x200. Draw your circle white on black. Now
>> create another 200x200 image this time drawing your rectangle.
>> Save as an indexed color image (.gif (pre IDL 5.4)
>> or .png should work)
>>
>> load these images into IDL, add the arrays, and do a where on
>> the new array for values that are double your white color palette
>> index value. The number of elements in the result of your where will
>> give you the pixel area of your intersection. Then all you have to do
>> is convert pixel area back to your measure of area.
>
>
> I'd like to point out that you can do essentially the same thing without
> actually drawing anything using the POLYFILLV function.
>
> Of course drawing the shapes out with POLYFILL to check what you're doing
> isn't a bad idea either...
>
> ---
> Mark Hadfield
> m.hadfield@niwa.cri.nz http://katipo.niwa.cri.nz/~hadfield
> National Institute for Water and Atmospheric Research
>
>
>
>

--
Joseph E. Means
Assistant Professor, joe.means@orst.edu
Department of Forest Science
Oregon State University
Corvallis, OR 97331-5752
541-750-7351