
Subject: Re: some geometry questions.

Posted by [David Fanning](#) on Wed, 29 Mar 2006 23:56:50 GMT

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qian writes:

> If I have 4 random points (x0,y0) (x1,y1), (x3,y3), (x4,y4), is there a
> simple way to decide whether one of them is inside of the triangle
> formed by the other three points?
>
> If none of them is in the triangle by others, how can I connect them in
> order to form a 4 edges polygon, instead of two head on triangles, when
> using order 1-2-3-4-1?
>
> like this:
> 1----2
> \ \
> 4__\3
>
> not like this:
> 1-----2
> \ /
> ^
> / \
> 3-----4

You are looking for a "complex hull algorithm", such as this one:

<http://nms.csail.mit.edu/~aklmiu/6.838/convexhull/index.html>

In IDL you can find the convex hull of a set of points with the TRIANGULATE command:

http://www.dfanning.com/tips/convex_hull.html

Cheers,

David

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Coyote's Guide to IDL Programming: <http://www.dfanning.com/>
