

Algorithm Design
M. T. Goodrich and R. Tamassia
John Wiley & Sons
Solution of Exercise C-12.12

To determine if P is convex we first traverse the vertices of P in a counterclockwise order, making sure each one determines a left turn. This is not enough, however, for P could self-intersect. So, we next pick a vertex v on P and determine, for each other vertex w that the line vw is locally interior to P with respect to the edges incident on v and w respectively.