

SLOW-CONVEX-HULL( $P$ )

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1  // Input: A set  $P$  of points in the plane.
2  // Output: A list  $L$  containing the vertices of  $CH(P)$  in clockwise order.
3   $E = 0$ 
4  for  $(p, q) \in P \times P$  and  $p \neq q$ 
5       $valid = true$ 
6      for  $r \in P$  and  $r \neq p$  and  $r \neq q$ 
7          if  $r$  lies left of the directed line from  $p$  to  $q$ 
8               $valid = false$ 
9      if  $valid$ 
10          $E.append(\vec{pq})$ 
11  From the set  $E$  of edges construct a list  $L$  of vertices of  $CH(P)$ , sorted in clockwise order.
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CONVEX-HULL( $P$ )

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1  // Input: A set  $P$  of points in the plane.
2  // Output: A list containing the vertices of  $CH(P)$  in clockwise order.
3  Sort the points by x-coordinate, resulting in a sequence  $[p_1, \dots, p_n]$ 
4   $L_{upper} = \{p_1, p_2\}$ 
5  for  $i = 3$  to  $n$ 
6       $L_{upper}.append(p_i)$ 
7      while  $L_{upper}.size() > 2$  and  $L_{upper}.turnRight() == false$ 
8           $L_{upper}.deleteMiddleOfLast3P()$ 
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