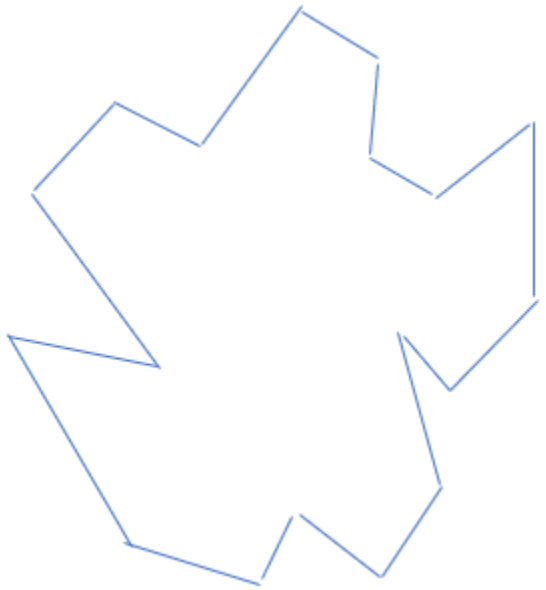
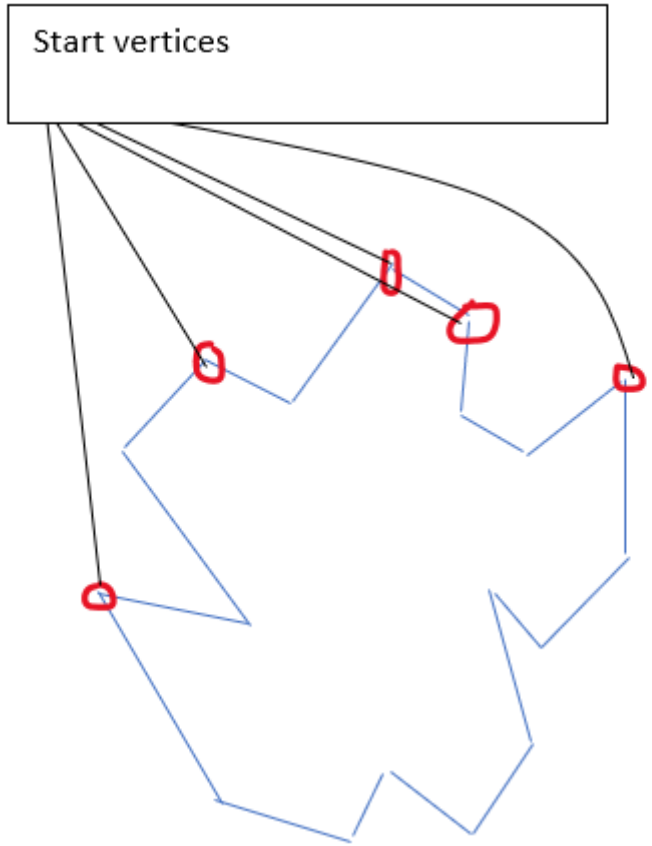
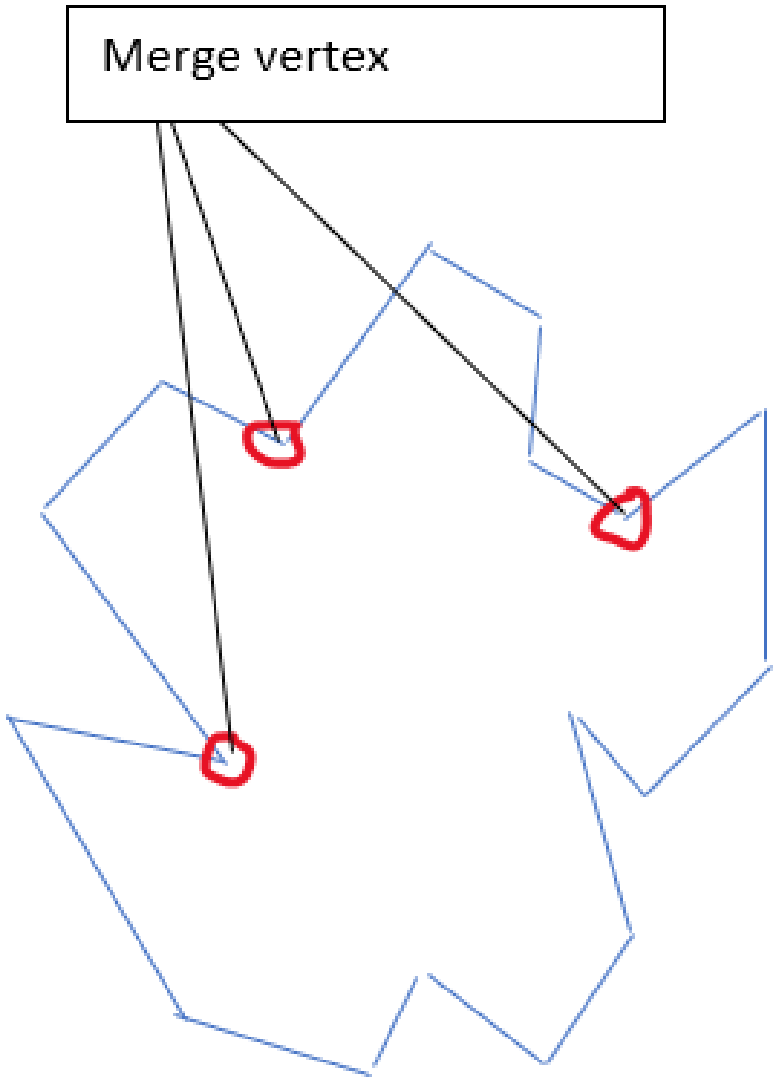
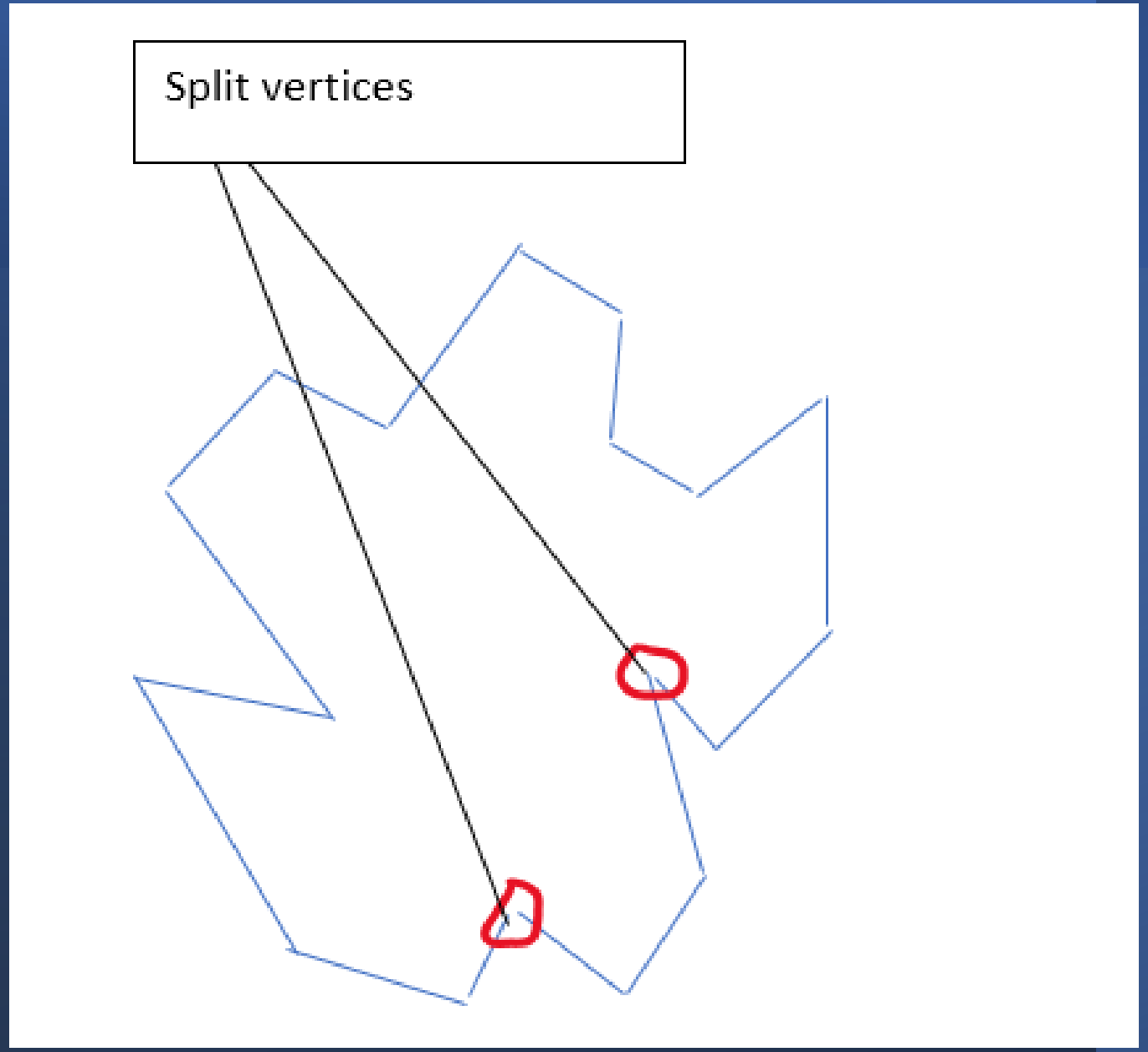
Polygon P with 18 vertices

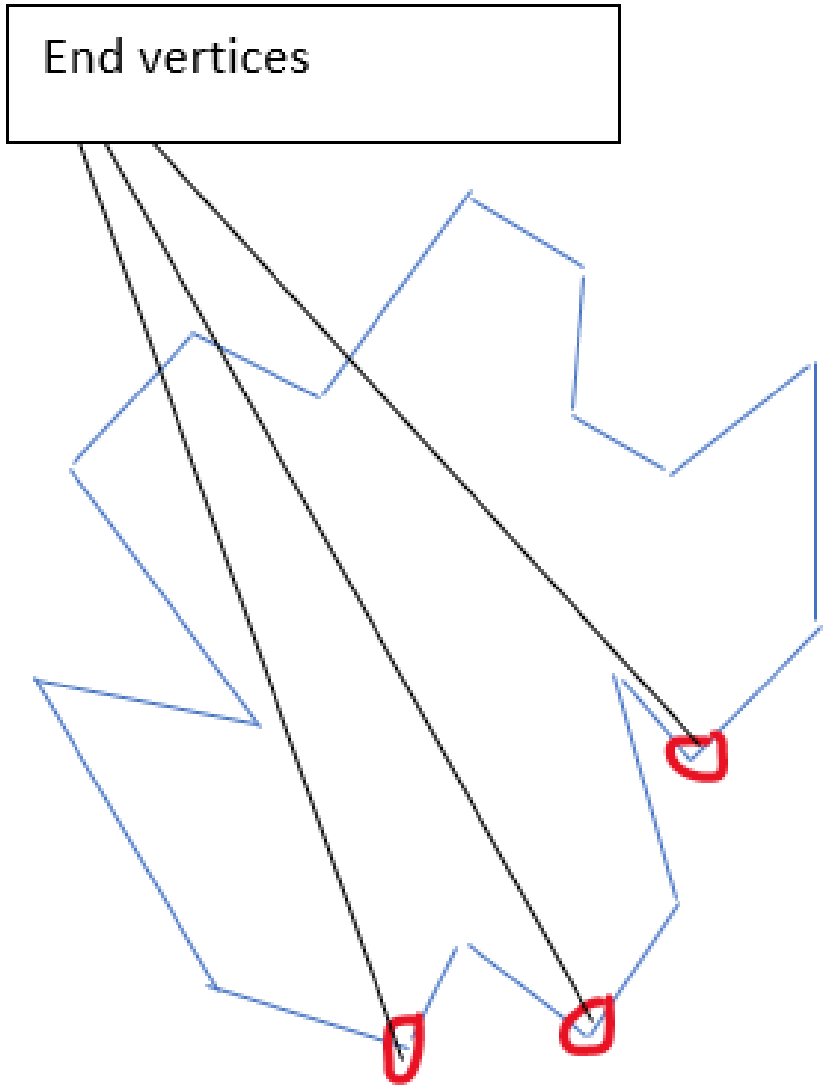


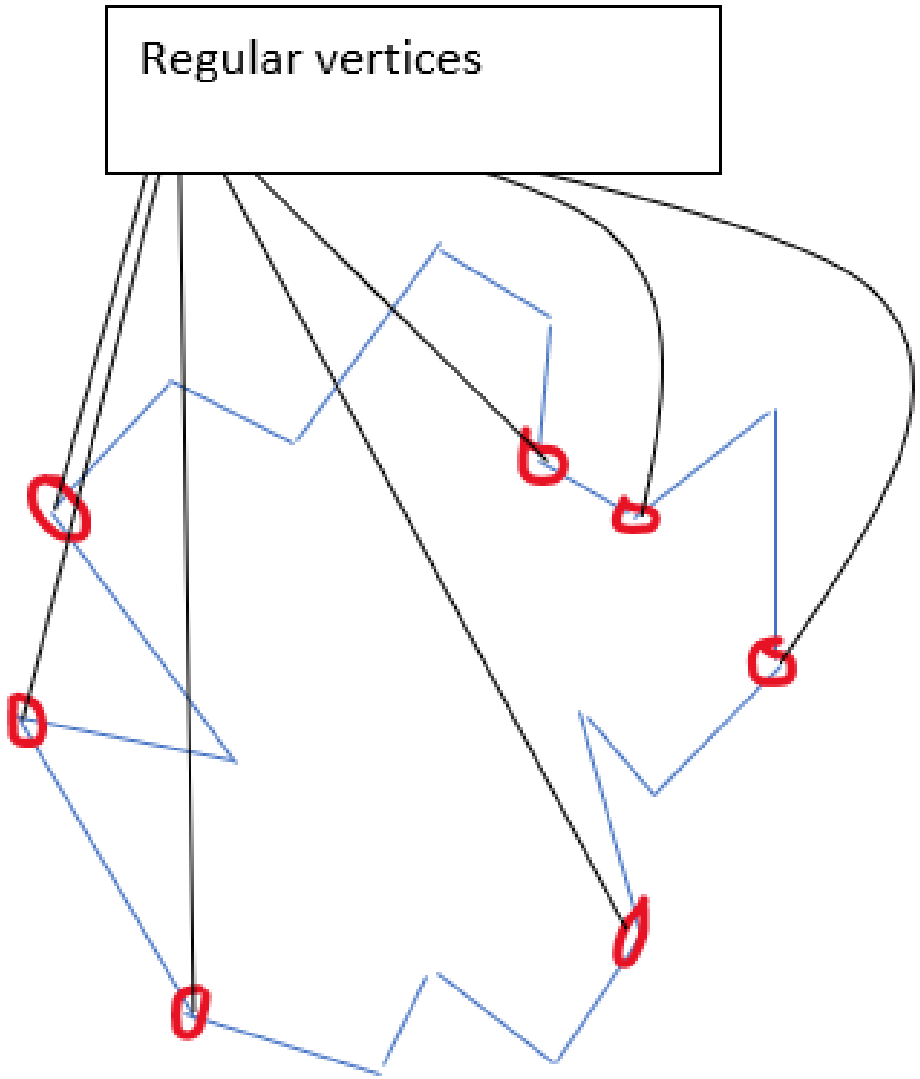
Defining what kind of every vertex



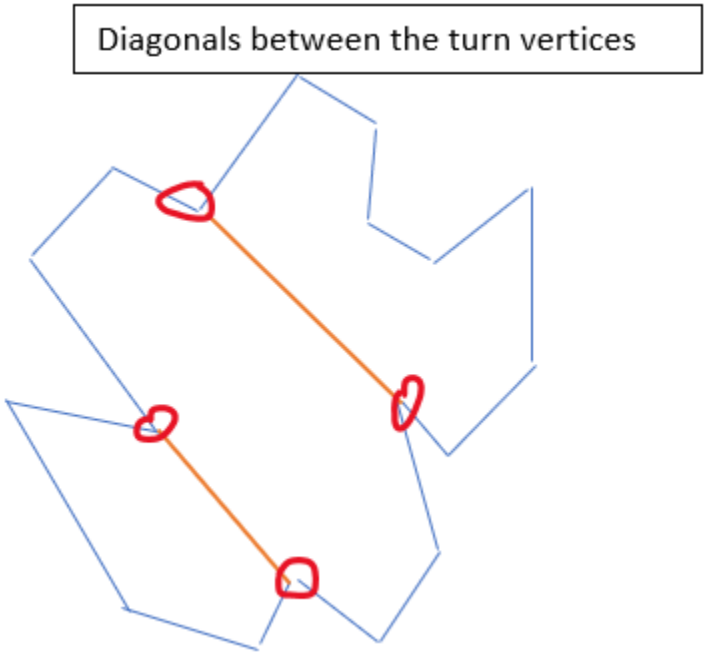

Merge vertex


Split vertices


End vertices


Regular vertices

Add diagonals between turn vertices



The MakeMonotone (P) algorithm

- Algorithm MakeMonotone(P)
  - Input :let there be a doubly connected edged list L which stores the polygon P
  - Output :newly updated list L will store the partitioning of polygon P into y-monotonic polygons
- First storing the vertices for polygon P in the priority queue
- Initializing the status T
- While the priority queue is not empty
  - Value=remove(priority queue first value entered)
  - Next is determining what kind of every vertex v in polygon P will be
  - Applying the handle algorithm

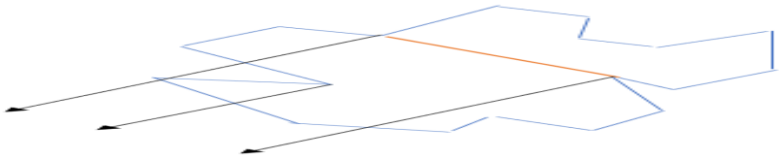
Handle algorithm

- Algorithm handle (vertex v,kind of every vertex v,status T)
  - Input: enter a newly doubly connected edge list L which stores the polygon P,every vertex v,the status T of every vertex and the type of every vertex
  - Output: get newly list L

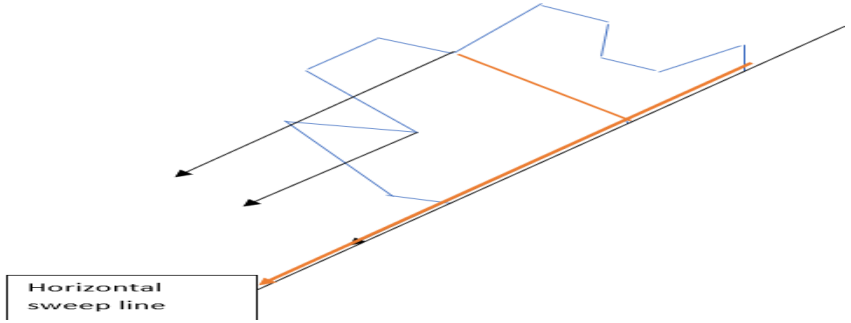
- If type of vertex is start vertex then algorithm handlestart(L,every vertex,Status)
- If type of vertex is split vertex then algorithm handlesplit(L,every vertex,Status)
- If type of vertex is regular vertex then algorithm handleregular(L,every vertex,Status)
- If type of vertex is merge vertex then algorithm handlemerge(L,every vertex,Status)
- If type of vertex is end vertex then algorithm handleend(L,every vertex,Status)

Polygon P triagulation

- Diagonals for split vertices
  - First we compute each vertex v left edge with respect to the horizontal sweep line

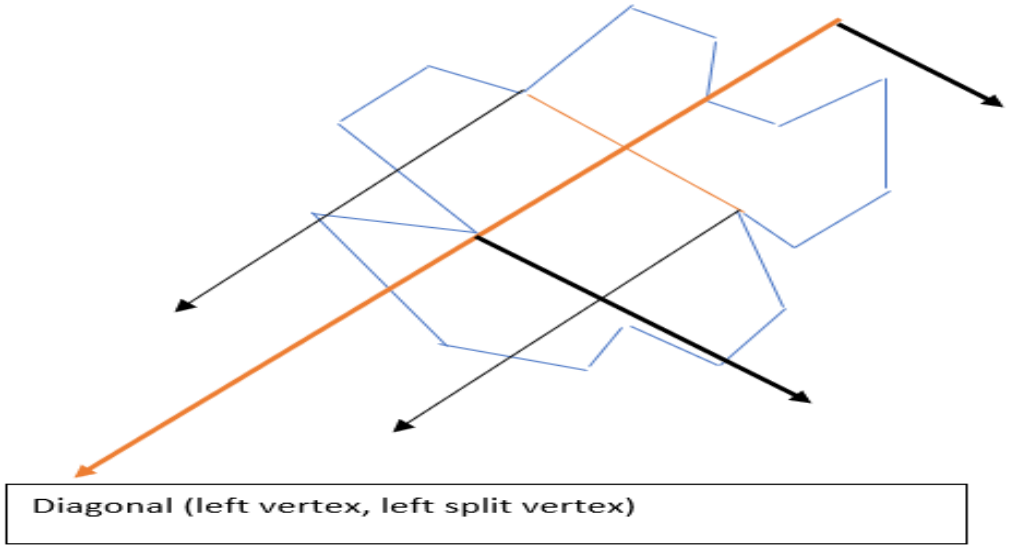


  - We then connect the split vertex v with any near vertex above
  - Lastly for every edge we save the bottom vertex such that with every left vertex equals each edge



Diagonals for merge vertices

- First when the vertex v is reached ,we reset all the left vertices equal to vertex v
- After reaching the split vertex in such a way that the left split vertex equals left vertex .now we introduce the diagonal



- In the cases when we get to the regular vertex in a way that the left split vertex is equal to the left vertex then the diagonal is introduced
- Lastly if left split vertex is reached ,then we introduce the left vertex,left split vertex diagonal