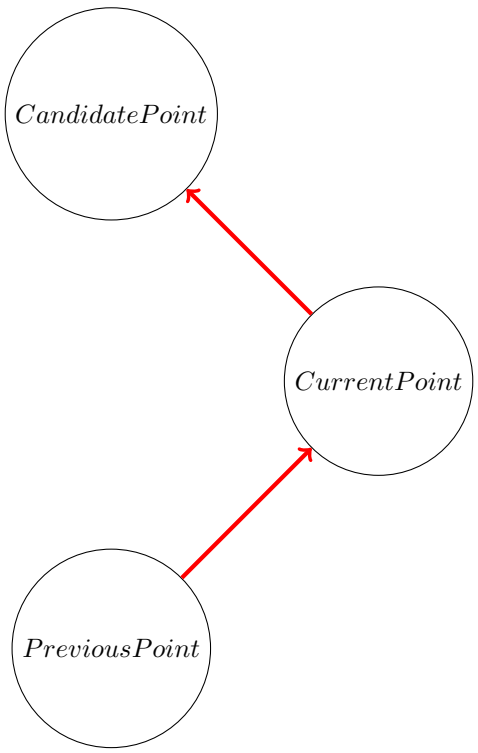
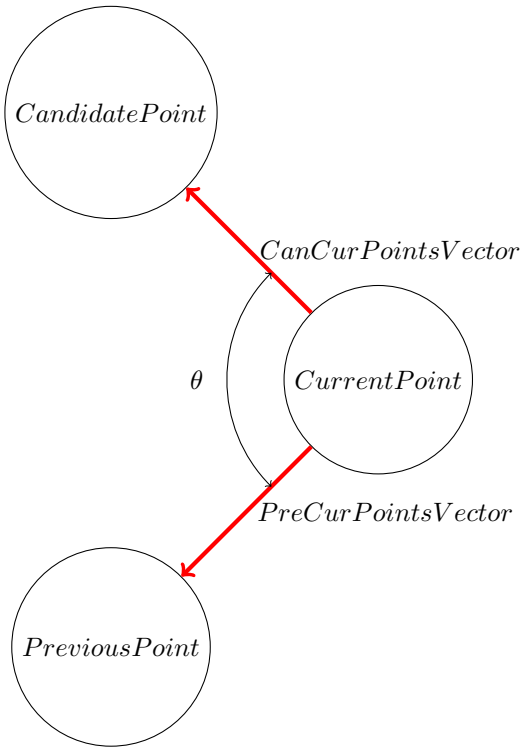
1 Program logic:

The program uses the Dot product of two vectors to obtain the angle between the points and selects the point that has the largest angle. The vectors used are as follows: Suppose the program is half-executed and we have traveled part of the convex path. The last point found in the path is the CurrentPoint, the point before it in the convex path is the PreviousPoint, and other points that were not selected in the convex path, plus the starting point of the convex path, which are candidates to be selected as the next point of the path. We call it a CandidatePoint.



The angle between the previous-current and current-next vectors is calculated for each candidate point and the point with the largest angle is selected.



2 Initialization:

The initialization at the beginning of the program is as follows: The point that has the lowest value of the second component of the coordinates is selected as the CurrentPoint and is added to the beginning of the path. By subtracting the vector [1,0] from the coordinates of the CurrentPoint, we create a virtual point as the PreviousPoint. In each iteration of the while loop, all the points in the CandidatePoints list in the for loop are selected as CandidatePoint. The list of CandidatePoints includes all the points at the beginning. In each iteration of the while loop, a point is selected to be added to the path. Because in the convex path, except for the start and end points, other points are only placed once in the path, after adding a point to the path, this point is removed from the list of CandidatePoints so that it is not examined in the next iterations.