

Maintain a cell priority queue and a point priority queue. The priority being how close the cell or point is to the query point.

Maintain a saved result vector to keep the closest points found so far.

Set the current cell to the cell which contains the query point.

Process the current cell:

Add all points from the current cell to the point priority queue.

Add all points which satisfy the criteria to the saved result and pop them from the point priority queue. The criteria being whether the distance of the point from the query point is less than $(1+\epsilon)$ times the distance of the current cell from the query point.

if the length of the saved result vector is greater than or equal to k then:

return the saved result vector

Add all neighbors of the current cell to the cell priority queue (that have not already been added).

Pop the processed cell off the cell priority queue and set the current cell to be the next cell at the top of the queue.