

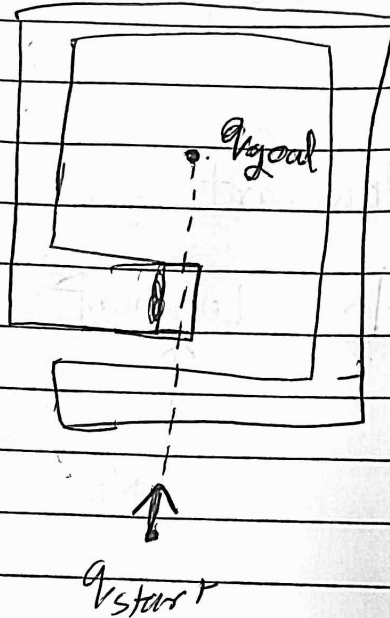
Q.4. → Bug 0 algorithm pseudo code

- (1) Follow the target
- (2) IF hit obstacle follow it in one direction. (In one direction)
- (3) Continue. until clear path to goal

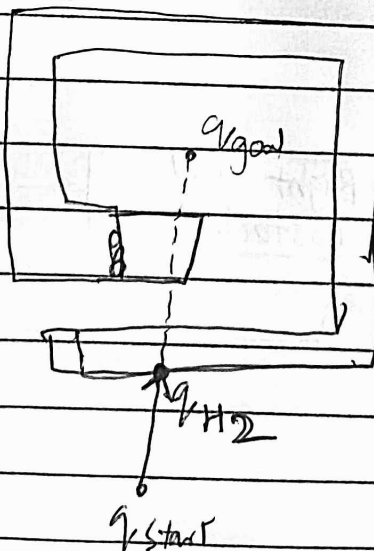
Bug 0 algorithm is not a complete Algorithm since it fails in certain scenarios.

→ Let  $q_{hit}$  be the point where it hits the obstacle at  $i^{th}$  step.  
→ &  $q_{leaving}$  point from obstacle at  $i^{th}$  step.

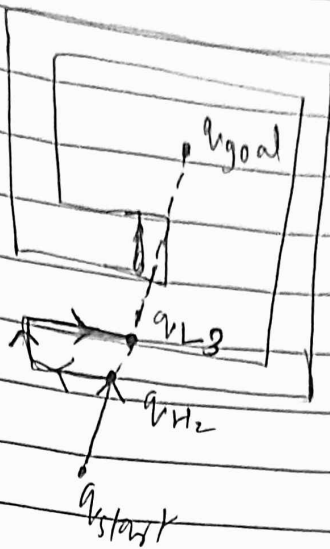
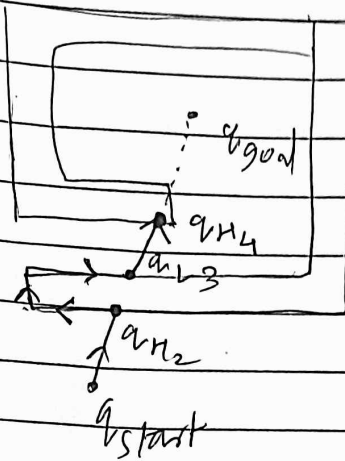
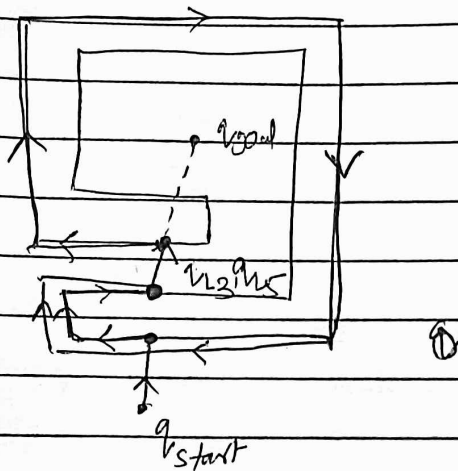
$i = 1$



$i = 2$



Hit obstacle take a left

$i=3$  $i=4$  $i=5$ 

We can see  $q_{L3}$  &  $q_{L5}$  are same position. & the since we are in same position in 2 more steps. This cycle repeats & we reach the same point & hence stuck in a loop and never reach the goal.  
Hence Bug D is incomplete algorithm