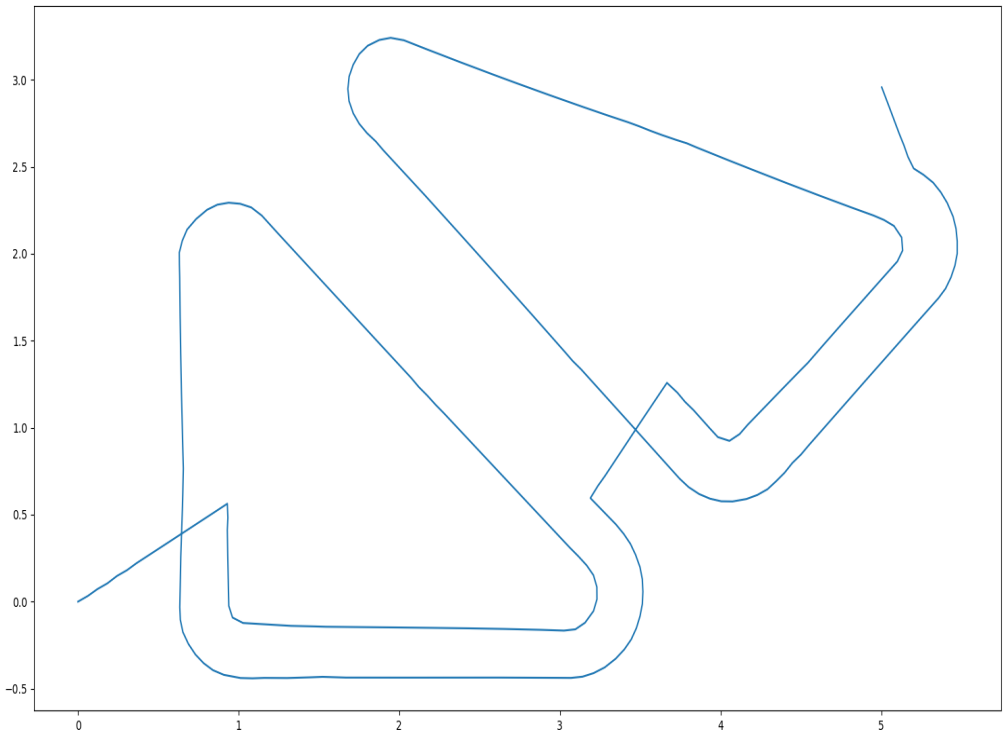
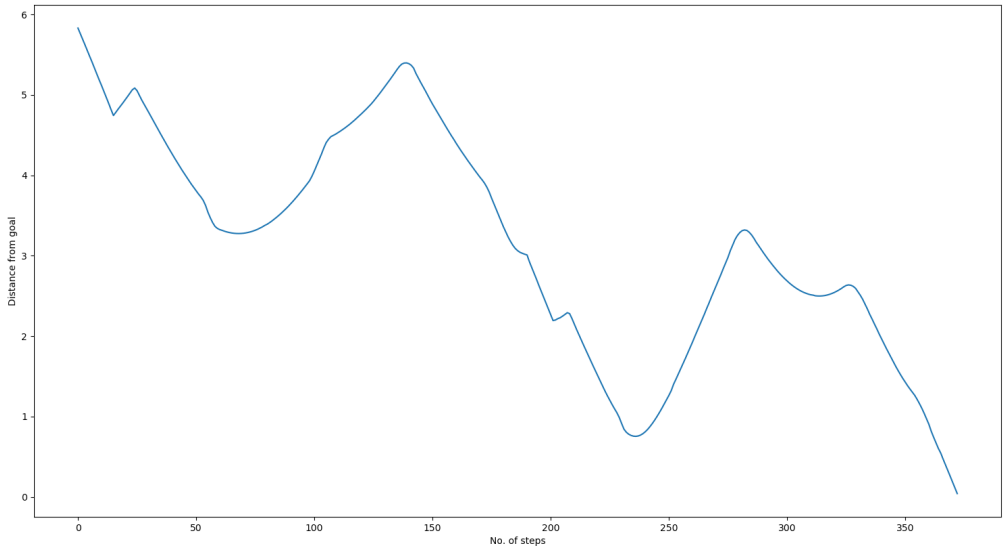
Assignment 1 Report

Bug 1:

- **The path traversed by the bot:27.300771916670374**



- **Plot: “distance from goal” vs “number of steps”**



- **Total path length: 26.8**

- **Implementation:**

In bug 1, we traverse the path around the obstacle to find the point having the least distance from the goal, this point is the left point from that particular obstacle.

In the algorithm, as soon as we are coming near an obstacle (i.e. distance going below the step size), we are encircling the obstacle and storing the distance from all the points to the goal point. The stopping criteria for completion of one revolution are *current_x* should lie between *start_x* and *p_hit_x* while *current_y* should lie on either side of *p_hit_y.*

Then find the pt having the least distance and then take the bot to that position. As soon as we are within a certain threshold distance of the pt having minimum distance we start moving in the direction of the goal and start finding if there is another obstacle within a distance of step_size.

To find if we have reached the goal, we check the distance between goal and current position and if it is less than step_size then we stop.