

The Goal that I want to achieve:

It should be an original and not copied from anywhere else. You need to write report also and explain it. It's a major Project like thesis work.

To design an Algorithm that perform a search and rescue of randomly placed victims in a previously known environment (the size of the map and position of obstacle is known beforehand).The robot should navigate all victims, it should return back home.

Points to notice:

- 1) The robot should not collide.
- 2) They maintain a kind of leader and follower formation control relationship while moving.
- 3) Calculate the distance from each neighbor and select those with the lowest distance
- 4) The robots should be able to adjust their trajectory in case some unusual object comes into play.
- 5) So there are basically 2 situations that I need to be aware of
 - A) Movement without having obstacle in between
 - B) Movement while avoiding obstacle in between.

I need to write an algorithm based on the above inputs and then have to simulate that using MATLAB.