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Worksheet 3

I chose the tangent bug for my obstacle avoidance approach.

1. Firstly I would define the robot’s current position x and the targets position T.
2. Then I would find the most optimal/shortest direction and path to reach T and have the robot follow this path (state 1).
3. If the IR sensor reads a local minimum or the bump sensor is triggered I would have the robot choose a direction that would create a shorter path toward the target (state 2).
4. Once the direction is set the robot would stick to the boundary of the obstacle (state 2).
5. The robot would keep in contact with, and travel along the boundary of the obstacle until the robot is facing the required theta or angle it would need to perform most optimal path (state 1).
6. If the robot contacts another obstacle along the new path then it would repeat the steps 3-5.
7. Else the target is either reached or the target is unreachable.