ASEN 5519 HW #3 | 10/12/20 | LAOUAR, ZAKARIYA

1) a) A complete planning algorithm generates a solution (path) or reports that no solution or path exists all in finite time.

b) Optimality in motion planning is a property of the algorithm that is defined for a specific function, i.e. path length, execution time, energy consumption etc.

c) The planner is resolution complete since determining a path from start to goal depends on how fine the grid is. The planner is optimal in that it finds the shortest path from start to goal (manhattan distance as heuristic).

→ a planner can be resolution complete (i.e. completeness is dependent on the resolution of the discretized map) or probabalistic complete (i.e. if a solution can be found, the probability of a path will $\to 1$ as $t \to \infty$