PROJECT 1 THEORY QUESTIONS

1.If there were no obstacles, Wheelbot would always follow the shortest path because A* searches through all the possibles paths and decides on the one that has the lowest f.

2.No, since the wheelbot cannot predict the location of the obstacles before he needs to choose a specific path. Therefore, if the initial best path chosen without taking in consideration hidden obstacles is different from the best path chosen if the hidden obstacles were known initially, it will not follow the shortest path and will have to recompute shortest from the location it is currently at.

3.The answers to the first two question would completely change. Breadth-First-Search does not guarantee the shortest path goal without having hidden obstacles because it does not search for shortest path. BFS doesn't look at all the possible paths, but instead goes through all the neighboring nodes . Therefore, with the addition of obstacles it will not follow the shortest path either.