

Q4.

In order for an algorithm to be complete, it must find a path between its starting point and the goal. If it doesn't exist, it should terminate with failure

Consider that there is a start and a goal, and the goal is surrounded by obstacles so that there is no clear path from the obstacle surrounding the goal to the food, but there is one.

A right-turning bug 0 algorithm starts at the start location and moves towards the obstacles.

Once it hits the obstacle, it must follow a low right-turning path until it reaches a point where it can leave the obstacle and proceed straight toward the goal. However, along the way, it encounters other obstacles, which it repeats for each obstacle.

Because the goal is surrounded by obstacles, it cannot reach the goal directly and will arrive at the previous visited point, so the algorithms will go into an infinity loop without finding the path to the goal.

As a result, bug 0 is not a complete algorithm.

