

Question:

1. Is the exploration order what you would have expected?
2. Does Pacman actually go to all the explored squares on his way to the goal?

Answer:

1. No.
2. No.

Explanation:

1. In a depth-first search (DFS), the exploration order tends to prioritize going deep into a branch of the search tree before backtracking. This means that Pacman will explore as far as possible along one path before exploring other paths. Consequently, the exploration order may **not** follow a systematic pattern and might depend on the order in which successors are generated and pushed onto the stack.

2. Pacman does go to all the explored squares on its way to the goal. However, the order in which Pacman explores squares might not be the most intuitive or optimal path. DFS can lead to exploring deep into a path that turns out to be suboptimal, and only later does it backtrack to explore other paths.

In summary, while Pacman explores all reachable squares, the exploration order may not follow a straightforward or optimal path, as DFS prioritizes depth over breadth in its search strategy.