Question:
1. Does Pacman visit all the explored nodes?
2. Is DFS a least-cost solution? Explain your answer.

Answer:
1. No.
2. No.

Explanation:

1. 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.

2. No, Depth-First Search (DFS) is not guaranteed to find the least-cost solution. DFS explores as deeply as possible along each branch of the search tree before backtracking. In a search problem where edge costs are not uniform (some paths have higher costs than others), DFS may find a solution quickly, but it does not guarantee that the solution is of minimum cost. DFS does not prioritize the shortest path or the lowest cost, and it might find a suboptimal solution.