Search Strategy Quiz

1. Question : Which search strategy aims to expand the node that appears to be closest to the goal, considering both the cost to reach the node and the estimated cost to reach the goal?

(A) Depth-First Search
(B) Breadth-First Search
(C) Lowest Cost First Search
(D) A* Search
(E) Greedy Best-First Search

2. Question: Which search strategy guarantees the shortest path to the goal node in an unweighted graph?

(A) Depth-First Search
(B) Breadth-First Search
(C) Lowest Cost First Search
(D) A* Search
(E) Greedy Best-First Search

3. Question : In which situation might the Greedy Best-First Search fail to find an optimal solution?

(A) When the heuristic is perfectly informed
(B) When the heuristic is admissible
(C) When the heuristic is consistent
(D) When the heuristic overestimates the true cost to reach the goal
(E) When the search space is small

4. Question: Which search strategy is not guaranteed to find the optimal solution, but is often efficient in practice?

(A) Depth-First Search
(B) Breadth-First Search
(C) Lowest Cost First Search

(D) A* Search

(E) Greedy Best-First Search

5. Question: Which search strategy expands nodes based on their evaluation function value, but might deviate from optimality if the evaluation function is not well-designed?

(A) Depth-First Search

(B) Breadth-First Search

(C) Lowest Cost First Search

(D) A* Search

(E) Greedy Best-First Search

6. Question: Which search strategy ensures optimality by exploring all possible paths but might suffer from exponential time complexity?

(A) Depth-First Search

(B) Breadth-First Search

(C) Lowest Cost First Search

(D) A* Search

(E) Greedy Best-First Search

7. Question: You're working on a recommendation system for an online shopping platform. Your goal is to suggest products to users based on their preferences and browsing history. To minimize the time spent searching for products, which search strategy should you implement?

(A) Depth-First Search

(B) Breadth-First Search

(C) A* Search

(D) Greedy Best-First Search

(E) Lowest Cost First Search

8. Question: You're designing a language translator that converts text from one language to another using a database of translated phrases. Your goal is to find the optimal sequence of translations to ensure accurate translations. Which search strategy is appropriate for finding the shortest sequence of translations?

(A) Depth-First Search

(B) Breadth-First Search

(C) A* Search

(D) Greedy Best-First Search

(E) Lowest Cost First Search

9. Question: You're developing a GPS navigation application for a city with one-way streets and varying traffic conditions. Users want to reach their destinations as quickly as possible while considering current traffic. Which search strategy should your application employ to optimize route choices based on both distance and real-time traffic data?

(A) Depth-First Search

(B) Breadth-First Search

(C) A* Search

(D) Greedy Best-First Search

(E) Lowest Cost First Search