AI Search Strategy Questions

Problem: Tower of Hanoi

Generated from Knowledge Graph Analysis

This document contains 1 instance(s) of the Tower of Hanoi problem with questions about the most appropriate solving strategies. Each instance includes visualizations and detailed answers based on knowledge graph analysis.

Instance 1:

Number of Disks: 3

Initial Configuration:
Peg A: [3, 2, 1]
Peg B: []
Peg C: []

Goal: All disks on Peg C

Question: For the Tower of Hanoi problem and the given instance, which is the most appropriate solving strategy among those mentioned in the course (BFS, DFS, UCS, A*, GBFS, IDA*, Hill Climbing, Simulated Annealing)?

Answer:

Best Strategy: DFS
✓ Guarantees optimal solution (required) | ✓ Complete - finds solution if one exists | ✓ DFS matches recursive structure of Hanoi | ✓ Simple search sufficient for small instance

Properties: Optimal, Complete

Alternative Strategies:

• **BFS**: For guaranteed optimal when no heuristic

• **UCS**: When actions have varying costs

Recommended Heuristics: Number of Disks to Move