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Documentation:

Question 1:

Problems for Which Polynomial-Time Algorithms Have Been Found  
1. Optimal Binary Search Tree

2. Minimum Spanning Tree problem

Problems that Have Been Proven to Be Intractable

1. Determining All Hamiltonian Circuits

2. Halting Problem

Problems that Have not been proven to be Intractable but for which polynomial time algorithms have never been found

1. 0-1 Knapsack Problem

2. M-Coloring Problem for m >= 3

Question 2: Write a polynomial-time verification algorithm for the Clique Decision problem.

Question 3: Show that the reduction of the Hamiltonian Circuits Decision problem to the Traveling Salesperson (Undirected) Decision problem can be done in polynomial time.

Question 4: A Hamiltonian Path (HP) in a graph is a set of edges that starts at one vertex, ends at a different vertex, and encounters each vertex exactly one. Show that the Hamiltonian Circuit (undirected graph version) is NP-Complete using the knowledge that the Hamiltonian Path (undirected graph version) is NP-Complete.