16.1-2 Give an efficient algorithm PRINT-OPTIMAL-PARENS to print the optimal parenthesization of a matrix chain given the table $s$ computed by MATRIX-CHAIN-ORDER. Analyze your algorithm.

16.2-2 Which is a more efficient way to determine the optimal number of multiplications in a chain-matrix multiplication problem: enumerating all the ways of parenthesizing the product and computing the number of multiplications for each, or running RECURSIVE-MATRIX-CHAIN? Justify your answer.

17.2-3 Suppose that in a 0-1 knapsack problem, the order of the items when sorted by decreasing weight is the same as their order when sorted by decreasing value. Give an efficient algorithm to find an optimal solution to this variant of the knapsack problem, and argue that your algorithm is correct.

17.2-4 Professor Midas drives an automobile from Newark to Reno along Interstate 80. His car’s gas tank, when full, holds enough gas to travel $n$ miles, and his map gives the distances between gas stations on his route. The professor wishes to make as few gas stops as possible along the way. Give an efficient method by which Professor Midas can determine at which gas stations he should stop, and prove that your strategy yields an optimal solution.

23.1-3 The transpose of a directed graph $G = (V, E)$ is the graph $G^T = (V, E^T)$, where $E^T = \{(v, u) \in V \times V : (u, v) \in E\}$. Thus, $G^T$ is $G$ with all its edges reversed. Describe efficient algorithms for computing $G^T$ from $G$, for both the adjacency-list and adjacency-matrix representation of $G$. Analyze the running times of your algorithms.