

# Dynamic Programming

1. For each of the following dynamic programming problems, what would you choose the subproblems to be?
  - (a) Find the longest monotone subsequence of a sequence.
  
  
  
  
  
  
  
  
  
  
  - (b) Find the edit distance between two strings.
  
  
  
  
  
  
  
  
  
  
  - (c) Find the longest common subsequence of two sequences.
  
  
  
  
  
  
  
  
  
  
  - (d) Find the shortest distance between vertices  $s$  and  $t$  in a weighted acyclic directed graph.
  
  
  
  
  
  
  
  
  
  
  - (e) The knapsack problem.
  
  
  
  
  
  
  
  
  
  
  - (f) Find the  $n^{\text{th}}$  Fibonacci number.