22C : 153 **Design and Analysis of Algorithms**
Spring 2002
Homework 2
Due on March 5

1. Exercise 9.3-1 (6 points)
2. Exercise 28.2-2 (8 points)
3. Exercise 28.2-3 (6 points)
4. Problem 15-4 (15 points)
5. Given a set of n distinct positive integers $S = \{s_1, \ldots, s_n\}$, and a target integer t, determine if there is a subset $S' \subseteq S$ of S such that the elements in S' add up to t. For example within $S = \{1, 2, 5, 9, 10\}$ there is a subset which adds up to $t = 22$ but not $t = 23$. Give a dynamic programming solution to this problem with running time polynomial in n and t. (15 points)