CSC 373 Tutorial Exercises for Week 4 Winter 2019

0. Did you trace the dynamic programming algorithm for "Activity Scheduling with Profits" on a few examples?...

1. Give a dynamic programming algorithm to solve the following Knapsack problem. Follow the steps outlined in class.
   Input: Items I_1, I_2, ..., I_n where I_j = (w_j,v_j) for positive
       integers w_j, v_j (w_j is the "weight" and v_j is the "value" of
       item number j), positive integer "capacity" W.
   Output: A subset of items S (_ {1,2,...,n} such that
       SUM_{i in S} w_i <= W (total weight does not exceed capacity)
       SUM_{i in S} v_i is maximum (total value is as large as possible).