Knapsack problem 2.0

Cost: 10 | Solved: 69

Memory limit: 256 MBs

Time limit: 1 s

Input: input.txt

Output: output.txt

Task:

A robber sneaked into a bank and found n gold bars with weights of $w_1, w_2, \dots, w_n$ kgs and values of $p_1, p_2, \dots, p_n$. The robber can't get away with all bars, for his knapsack can only hold the weight not greater than W kgs.

Find the optimal set of bars that will allow the robber to get away with maximal *value*.

Input:

The first line contains a natural n ($1 \le n \le 10^3$) – the quantity of gold bars and an integer W – the maximal sum the robber can get away with.

The second line contains bars' weights ($w_1, w_2, \dots, w_n$).

The third line contains bars' values ($p_1, p_2, \dots, p_n$).

Output:

The total value of the gold bars the robber should grab.

Example:

Input	Output

2 10 100 80 10 9	100
5 100 1000 550 550 550 550 80 50 50 50 50	1100