CAREER

0/1 Knapsack

Problem

It's a rough time to be a jewel thief. You're planning to break into this jewelry store, but as always, your burlap sack is limited in how much weight it can carry. Each jewel has a weight and a value, and your sack cannot carry more weight than its capacity. You want to maximize the amount of value you can carry out of the jewelry store.

Grading

Correctness & Efficiency: 80%

• Passes 41 test cases: 80%

Passes 30 to 40 test cases: 60%

Passes 20 to 29 test cases: 40%

Passes 1 to 19 test cases: 20%

Passes 0 test cases: 0%

Code Quality: 20%

Input Format

Each test case begins with two integers $m{N}$ and $m{C}$, the number of jewels and the capacity of your sack. $m{N}$ lines follow, each containing two space separated integers V_i and W_i , the value and weight of the jewel.

Constraints

 $1 \le N \le 1000$

 $1 \le C \le 1000$

 $1 \leq V_i \leq 10000$

 $1 \leq W_i \leq 10000$

Output Format

For each test case, print a single line of output: The maximum value you can steal.

Sample Input 0

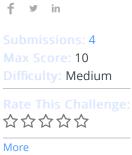
- 4 10
- 10 5
- 40 4
- 30 6
- 50 3

Sample Output 0

90

Explanation 0

Take jewels 2 and 4. The value is 90 and the total weight is 7, which fits easily into your bag of size 10.





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