

Time Limit: 2 sec / Memory Limit: 1024 MB

Score: 100 points

Problem Statement

There are N items, numbered $1,2,\ldots,N$. For each i ($1\leq i\leq N$), Item i has a weight of w_i and a value of v_i .

Taro has decided to choose some of the N items and carry them home in a knapsack. The capacity of the knapsack is W, which means that the sum of the weights of items taken must be at most W.

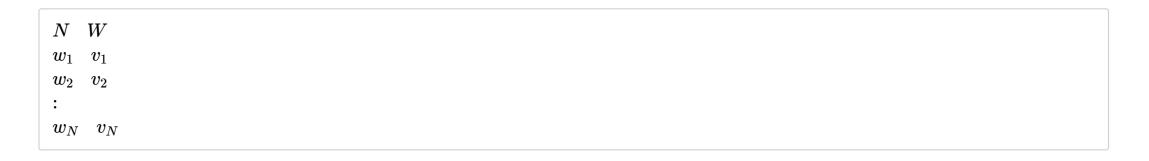
Find the maximum possible sum of the values of items that Taro takes home.

Constraints

- All values in input are integers.
- $1 \le N \le 100$
- $1 \le W \le 10^5$
- $1 \leq w_i \leq W$
- $1 \le v_i \le 10^9$

Input

Input is given from Standard Input in the following format:



Output

Print the maximum possible sum of the values of items that Taro takes home.

Sample Input 1 Copy 3 8 3 30 4 50 5 60

Sample Output 1 Copy 90

Items 1 and 3 should be taken. Then, the sum of the weights is 3+5=8, and the sum of the values is 30+60=90.

Sample Output 2 Copy 5000000000

The answer may not fit into a 32-bit integer type.

Copy

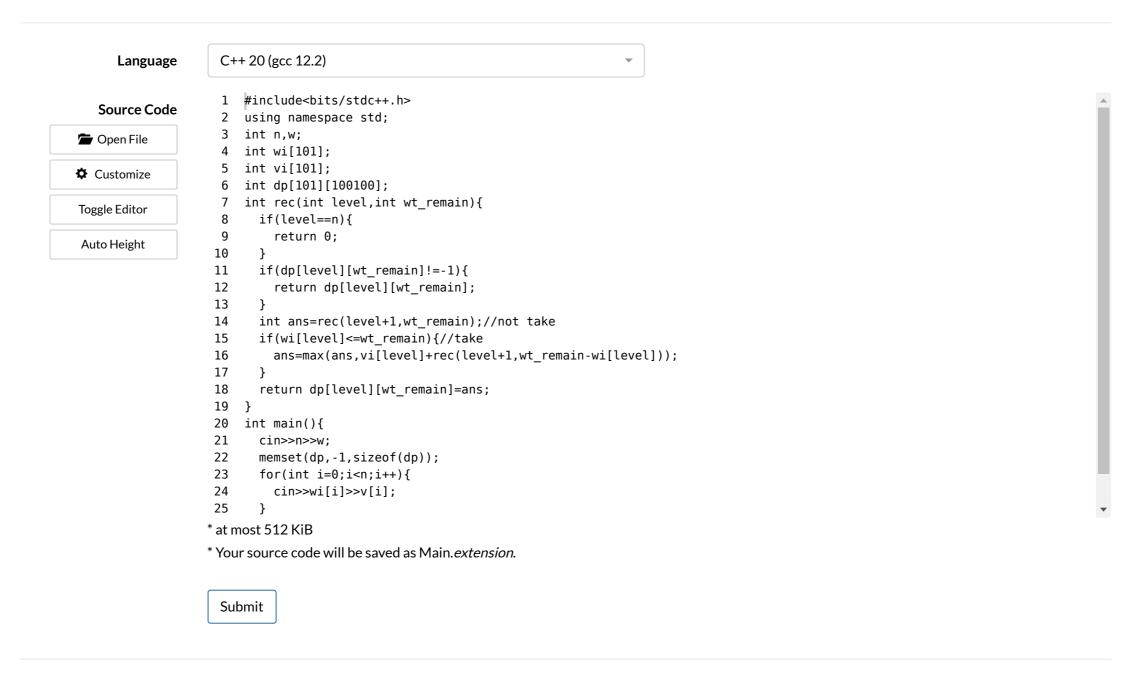
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6 15
6 5
5 6
6 4
6 6
3 5
7 2
```

Sample Output 3 Copy

17 Copy

Items 2,4 and 5 should be taken. Then, the sum of the weights is 5+6+3=14, and the sum of the values is 6+6+5=17.



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