

Problem PH

Bank Deposit Challenge

Time limit: 1 second

Memory limit: 1024 megabytes

Problem Description

N banks offer their own one-year deposit activities. For bank i , (v_i, w_i) denotes the yearly deposit interest and deposit limit of its activity, respectively. When a depositor selects the activity of bank i , he/she must deposit an amount of money equal to w_i to cover a whole year. Note that a depositor can choose an activity only once. If a depositor has only cash C to participate in the deposit activities, what is the maximum deposit interest he/she can earn?

Input Format

The first line is an integer representing the cash C . The second line contains N integers, where the i -th integer indicates v_i . The third line also contains N integers, where the i -th integer indicates w_i . Note that there is a space between adjacent integers.

Output Format

An integer specifying the maximum deposit interest the depositor can earn. If no deposit interest can be earned, please output 0.

Technical Specification

- $1 \leq N \leq 100$.
- $1 \leq C \leq 1,000$. (unit: ten thousand dollars)
- $1 \leq v_i \leq 540$. (unit: one thousand dollars)
- $1 \leq w_i \leq 300$. (unit: ten thousand dollars)



Sample Input 1

```
100
10 5 15 7
20 30 50 70
```

Sample Output 1

```
30
```

Sample Input 2

```
500
72 2 2 10 12 10 10 17 13 15
120 10 5 20 25 100 80 300 50 100
```

Sample Output 2

```
144
```

Sample Input 3

```
5
1 2
10 20
```

Sample Output 3

```
0
```