

E. Not So LIS

time limit per test: 2 s.

memory limit per test: 1024 MB

Let $f(b)$ represent the length of the longest increasing subsequence in a sequence b . In other words, $f(b)$ is the largest integer k such that there exist indices $i_1 < i_2 < \dots < i_k$ with $b_{i_1} < b_{i_2} < \dots < b_{i_k}$. Specifically, we define $f(b) = 0$ if b is empty.

You are given an integer sequence a_1, a_2, \dots, a_n of length n , where each element a_i has an associated weight w_i . Find a subsequence a' of a such that

$$f(a') < f(a)$$

and the sum of weights of the elements in a' is maximized. Output the maximum possible sum of weights.

Input

The first line contains a single integer n ($1 \leq n \leq 100$) — the length of the sequence.

The second line contains n integers a_1, a_2, \dots, a_n ($1 \leq a_i \leq n$) — the sequence.

The third line contains n integers w_1, w_2, \dots, w_n ($1 \leq w_i \leq 10^7$) — the weights.

Output

Print one integer — the maximum possible sum of weights of a subsequence a' satisfying $f(a') < f(a)$.

Examples

input	Copy
5 1 3 2 5 4 100 2 4 6 5	
output	Copy
111	
input	Copy
7 7 3 2 1 5 2 1 4 8 4 1 2 3 5	
output	Copy
24	
input	Copy
4 1 1 1 1 4 5 1 7	
output	Copy
0	

Micro1 Contest #9

Finished

Practice



→ Languages

The following languages are only available for the problems from the contest

Micro1 Contest #9:

- GNU G++17 7.3.0
- GNU G++20 13.2 (64 bit, winlibs)
- GNU G++23 14.2 (64 bit, msys2)

→ Submit?

Language:
GNU G++23 14.2 (64 bit, ms

Choose file:

Choose File

No file chosen

Submit

→ Last submissions

Submission	Time	Verdict
318231963	May/03/2025 17:43	Accepted
318220517	May/03/2025 15:53	Time limit exceeded on test 20
318220150	May/03/2025 15:48	Time limit exceeded on test 9
318192584	May/03/2025 11:03	Time limit exceeded on test 9
318192256	May/03/2025 11:00	Time limit exceeded on test 9
318190954	May/03/2025 10:48	Time limit exceeded on test 9

