Employee Stock Grants

You are the president of a hot new tech startup, and today you're rewarding your employees for their hard work by giving them additional shares of company stock.

You have N employees sitting at a line of desks, and each one has a performance rating. You want to give at least min_i share(s) to each employee i (where $0 \leq i < N$), but also give extra rewards to some of your top performers. If two employees are *sufficiently close* to each other, then the employee with the higher rating must receive more shares than the employee with the lower rating. Two employees are sufficiently close if the distance between them is less than or equal to 10, meaning employee i is sufficently close to employees in the range $[i - 10, i + 10]$.

Given the performance reviews for each of your N employees, find and print the minimum number of stock shares you'll need to grant to the employees. Assume the location of each employee is *fixed*.

Input Format

The first line contains an integer, N, denoting the number of employees.
The second line contains N integers separated by spaces, denoting $rating_i$ for employee i (where $0 \leq i < N$).
The third line contains N integers separated by spaces, denoting min_i for employee i (where $0 \leq i < N$).

Constraints

- $1 \leq N \leq 10^5$
- $1 \leq rating_i \leq 10^5$
- $1 \leq min_i \leq 10^5$

Output Format

Print a single integer denoting the minimum number of stock shares you must grant.

Sample Input

```
12
6 1 1 1 2 2 2 3 3 3 4 5
2 1 2 3 2 1 2 3 2 1 2 3
```

Sample Output

```
53
```

Explanation

Our array of ratings is $ratings = [6, 1, 1, 1, 2, 2, 2, 3, 3, 3, 4, 5]$. The array of minimum shares is $min = [2, 1, 2, 3, 2, 1, 2, 3, 2, 1, 2, 3]$.

We satisfy the problem with the following minimal 53-share distribution: $[7, 1, 2, 3, 4, 4, 4, 5, 5, 5, 6, 7]$.

Observe that:

- Two employees having equal ratings can receive different quantities of stock.
- Employee 0 and employee 11 received the same number of shares even though they had different ratings because they are not sufficiently close to each other (i.e., they are > 10 indices apart).