Task 2: `Gym Badges`

In a quest to be the very best, you have decided to set out on your journey around the region to prove your strength by collecting gym badges. You begin your solo adventure with your first and only Pokemon, which happens to be a legendary *Wabbit*.

Your Wabbit starts at level 0 and **can only** gain levels by challenging gyms. There are N gyms numbered from 1 to N spread across the region and you can challenge them in any order. To prevent over grinding, gym i has its own level cap L_i where you can only challenge the gym if Wabbit's current level is **less than or equal to** L_i.

As there may be different number of trainers to defeat in a gym, the number of levels that Wabbit gains after challenging a gym may differ. To be precise, Wabbit will gain X_i levels after challenging gym i.

Each gym i rewards successful challengers with their own unique gym badge i. Find the maximum number of unique gym badges that you can obtain if you challenge the gyms in an optimal way.

Input

Your program must read from standard input.

The first line contains an integer N, the number of gyms.

The second line contains N integers, where the ith integer represents the level Wabbit gains by challenging i^{th} gym, X_i.

The third line contains N integers, where the ith integer represents the level cap of the ith gym, L_i.

Output

Your program must print to standard output.

The output should contain a single integer on a single line, the maximum number of unique gyms badges that can be won.

Subtasks

The maximum execution time on each instance is 1.5s. For all testcases, the input will satisfy the following bounds:

- $1 \leq N \leq 500\,000$

- $1 \leq X_i, L_i \leq 10^9$

Your program will be tested on input instances that satisfy the following restrictions:

Subtask	Marks	Additional Constraints
1	15	$1 \leq N \leq 10$
2	9	L_i is constant
3	27	$1 \leq N \leq 5000$
4	49	-

Sample Testcase 1

This testcase is valid for subtasks 1, 2 and 4.

Input	Output
5 4 6 3 5 2 10 6 4 8 12	4

Sample Testcase 1 Explanation

An optimal solution can be obatined when the gyms are challenged in the following order: $3, 4, 1, 5$.

Sample Testcase 2

This testcase is valid for all subtasks.

Input	Output
5 3 9 4 2 6 10 10 10 10 10	4

Sample Testcase 2 Explanation

An optimal solution can be obatined when the gyms are challenged in the following order:
$1, 3, 4, 2$.

Note that after the challenging gym 4, Wabbit is at level 9 which is within the level cap of gym 2 and can thus challenge it.

At the end Wabbit will be at level 18 which is above the level cap of the gym 5 and hence cannot challenge it.