A. Job Scheduling

time limit per test: 1 second

memory limit per test: 256 megabytes

You are given list of N jobs where the i_{th} job starts at time s_i and finishes at the time f_i and yields the profit p_i.

Find a subset of jobs where:

- There are no jobs overlapping.
- The total amount of profit is maximized.

NOTE: The jobs i and j are considered overlapping when $f_i < s_j$.

Input

The first line contains the number $N(1 <= N <= 10^9)$ — number of the jobs.

The following line contains N numbers s_i $(1 <= s_i <= 10^6)$ — s_i is the time when the job i starts.

The following line contains N numbers f_i $(1 <= f_i <= 10^6)$ — f_i is the time when the job i finishes.

The following line contains N numbers p_i $(1 <= p_i <= 10^6)$ — p_i is the profit of the job i.

Output

Print the maximum profit that can be obtained by choosing a subset of the given jobs where both of the requirements mentioned above are satisfied.

Example

input Скопировать

```
5
1 4 6 3 7
4 6 7 5 8
3 5 4 2 10
```

output Скопировать

```
22
```