

Kyle Makes a List

Kyle got "N" pairs (A_i, B_i) such that $0 \leq i < N$ and $A_i < B_i$. He wants to make a list out of these "N" pairs. But there is a limitation on it, If (x, y) comes after (a, b) in the list, then x must be greater than b .

For example:

- $(1, 3), (5, 8), (13, 15)$ is a valid list.
- $(1, 3), (2, 4), (5, 8)$ is *not* a valid list.

Your task is to form the longest list that is possible using the "N" pairs.

Input

First line will contain "N", the number of pairs Kyle has. Each of the next "N" lines will contain two integers A_i and B_i .

Output

Output a single integer, length of the longest list it is possible to make using these pairs.

Constraints

$$1 \leq N \leq 1000$$

$$0 \leq A_i < B_i \leq 10^9$$

Example

Input:

```
5
4 8
1 2
2 8
13 20
7 14
```

Output:

```
3
```

Explanation

Longest possible list is $(1, 2), (4, 8)$ and $(13, 20)$.