Problem K. Magic

Input file: standard input
Output file: standard output

Warning: Unusual memory limit!

You are given a sequence $a_0, \ldots, a_{2n}$. Initially, all numbers are zero.

There are n operations. The i-th operation is represented by two integers l_i, r_i ($1 \le l_i < r_i \le 2n, 1 \le i \le n$), which assigns i to $a_{l_i}, \ldots, a_{r_i-1}$. It is guaranteed that all the $2n$ integers, $l_1, l_2, \ldots, l_n, r_1, r_2, \ldots, r_n$, are distinct.

You need to perform each operation exactly once, in arbitrary order.

You want to maximize the number of i ($0 \le i < 2n$) such that $a_i \neq a_{i+1}$ after all n operations. Output the maximum number.

Input

The first line contains an integer n ($1 \le n \le 5 \times 10^3$).

The i-th line of the next n lines contains a pair of integers l_i, r_i ($1 \le l_i < r_i \le 2n$). It is guaranteed that all the $2n$ integers, $l_1, l_2, \ldots, l_n, r_1, r_2, \ldots, r_n$, are distinct.

Output

Output one integer representing the answer in one line.

Example

standard input	standard output
5 2 3 6 7 1 9 5 10 4 8	9