

Pineapple Island

Type	Input file	Output file	Time limit	Memory limit
Batch	stdin	stdout	1 second	512 MB

Statement

After successfully robbing the Robert Menzies College Art Gallery of all its precious paintings, you have finally been hired into the most infamous organisation of thieves of all time - the Pink Panthers¹. For your first assignment, you have been tasked with stealing Pineapple Island's most precious secret: the last digit of π ². Secret agents *jez* and *anonymous* have informed you that the last digit of π is not stored physically anywhere on Pineapple Island, but is instead transmitted continuously as an encrypted³ signal through the residential telephone lines.

Pineapple Island has N houses. The i -th house has a *determinant* of d_i and an *eigenvalue* of e_i . Each house has a unique determinant and eigenvalue. The telephone network of Pineapple Island was designed to be mathematically perfect, such that there is a bidirectional telephone line between houses i and j if and only if all houses with eigenvalue between e_i and e_j have a determinant less than both d_i and d_j . If there are no houses with eigenvalue between e_i and e_j , then there is also a telephone line between houses i and j .

You have devised a three-step plan for stealing the secret:

1. Broadcast a decryption signal through all telephone lines at the same time by positioning hackers at strategic locations throughout the island, such that for each telephone line, at least one of the houses it connects is occupied by a hacker.
2. ???
3. Profit.

Since you have a limited crew, you want to minimise the number of hackers you use. Write a program to determine the minimum number of hackers.

Input

The first line contains the integer N . The following N lines contain two integers each. The i th of these lines contains d_i and e_i .

Output

Output 1 integer, the minimum number of thieves required in a valid assignment of hackers to houses, such that each telephone line connects to at least one hacker-occupied house.

¹See Selection Exam 2017, *White Collar*.

² π , a well-known mathematical constant. Also known as 3, e , or \sqrt{g}

³In fact, early islanders had copied the code for the cryptographic hash function from the popular informatics training site, *orac*.

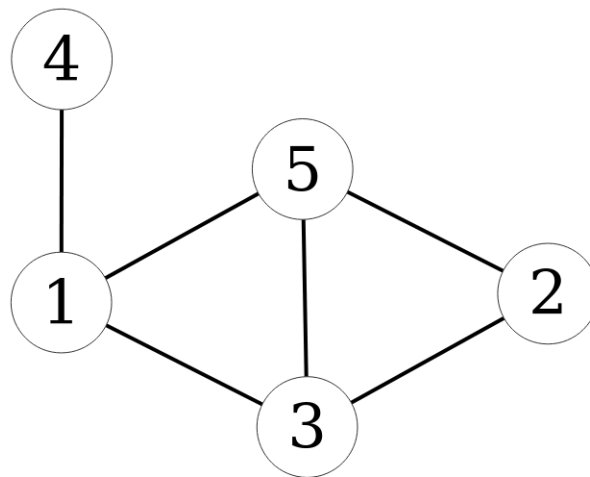
Sample Input

```
5
8128 3
6 7
496 5
28 2
33550336 11
```

Sample Output

```
3
```

Explanation



In the above example, you can position your hackers at houses 1, 2 and 5, so that all telephone lines are covered by a hacker.

Constraints

- $2 \leq N \leq 3 \times 10^5$
- $1 \leq d_i \leq 10^9$ for all i
- $1 \leq e_i \leq 10^9$ for all i

Subtasks

Number	Points	Additional Constraints
1	10	$N \leq 20$
2	32	$N \leq 1000$
3	58	No additional constraints