Problem L. Logistics of Bubble Gum

Input file:	*standard input*
Output file:	*standard output*
Time limit:	2 seconds
Memory limit:	1024 mebibytes

There is only one railway line connecting $(n + 1)$ cities developed along the coastline. The cities along the coast are numbered sequentially by integers between 0 and n. City $(i - 1)$ and city i $(1 \le i \le n)$ are connected by rail, and other pairs of cities are not connected by rail.

Since every city except city 0 is famous as a tourist destination, every city i $(1 \le i \le n)$ excluding city 0 is preparing a variety of goods to welcome travelers ahead of the tourist season. Worldwide famous Bubble Gum is the most popular product in every city. However, the supplier of this product is located in city 0.

There is only one store that sells Bubble Gum in each city i $(1 \le i \le n)$. Let S_i be the Bubble Gum specialty store in city i. In each S_i, the amount of Bubble Gums expected to be sold in the tourist season is analyzed and reported to the supplier in the form of $[l_i, m_i]$. Here, l_i and m_i represent the minimum and the maximum number of products required at S_i, respectively.

The Bubble Gum supply company in city 0 collects the reports from the stores in every city, and supplies products according to the rules described below.

Select a city, say city k $(1 \le k \le n)$. Then, take a train departing from city 0, travel to city k, and supply Bubble Gums only to the stores along the route. In other words, the Bubble Gum supplier supplies products to $S_1, S_2, \ldots, S_k$. Let c_i be the number of Bubble Gums supplied to S_i $(1 \le i \le k)$ while moving along the route. Then the condition $c_i \le c_{i+1}$ $(1 \le i \le k - 1)$ must be satisfied.

If the supplier supplies products according to the supply rules described above, it may be impossible for every store to get the desired number of products with a single supply procedure. Therefore, the supplier will go through several supply procedures to supply the products, but must comply with the supply rules described above each time. After completing all supply procedures, each S_i must have at least l_i and at most m_i products.

For example, suppose $n = 4$, and the number of products required by each store S_i $(1 \le i \le 4)$ are $[13, 15]$, $[5, 8]$, $[6, 14]$, and $[3, 7]$, respectively. In order for each store to get the desired quantity of goods, there must be at least two supply procedures. In the first supply procedure, 6 products can be supplied to each of the 4 stores. Once this first procedure is completed, all stores' requests except S_1 are satisfied. Since 6 products have already been supplied to S_1, r $(7 \le r \le 9)$ additional products will be supplied to S_1 in the second supply procedure. Of course, there may be other possible schedules. However, at least two supply procedures are required.

Write a program to calculate the minimum number of supply procedures needed to supply the number of Bubble Gums required by each store according to the above rules.

Input

The input starts with a line containing an integer n $(1 \le n \le 10^6)$ which is the number of cities along the coast.

In the following n lines, the i-th line contains two integers l_i and m_i $(1 \le l_i \le m_i \le 10^9)$ which indicate the minimum and the maximum number of products required at S_i.

Output

Print exactly one line. The line should contain the minimum number of supply procedures needed to supply the number of products required by each store according to the supply rules.

Examples

standard input	standard output
4 13 15 5 8 6 14 3 7	2
5 1 2 2 3 33 44 4 5 6 7	2
5 10 20 3 6 13 30 7 8 11 13	3