

5. POKLON

Mirko got a set of intervals for his birthday. There are many games he can play with them. In one of them, Mirko must find the **longest** sequence of **distinct** intervals such that each interval in the sequence is in the set and that each interval **contains** the one that **follows** in the sequence.

Write a program which finds one such longest sequence.

Input

The first line of input contains the integer N ($1 \leq N \leq 100000$), the number of intervals in the set.

Each of the following N lines contains two integers A and B describing one interval ($1 \leq A < B \leq 1000000$).

Output

Output the length K of the longest sequence on the first line.

Each of the following K lines should contain one element of the sequence, an interval in the same format it was given in the input.

Sample test data

input	input	input
3	5	6
3 4	10 30	1 4
2 5	20 40	1 5
1 6	30 50	1 6
	10 60	1 7
output	30 40	2 5
3	output	3 5
1 6	3	output
2 5	10 60	5
3 4	30 50	1 7
	30 40	1 6
		1 5
		2 5
		3 5