COCI '07 Contest 4 #5 Poklon

Time limit: 0.6s **Memory limit:** 32M

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 Specification

The first line of input contains the integer N $(1 \leq N \leq 100\,000)$, the number of intervals in the set. Each of the following N lines contains two integers A and B describing one interval $(1 \leq A < B \leq 1\,000\,000)$.

Output Specification

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 Input 1

```
3
3 4
2 5
1 6
```

Sample Output 1

```
3
1 6
2 5
3 4
```

Sample Input 2

```
5
10 30
20 40
30 50
10 60
30 40
```

Sample Output 2

```
3
10 60
30 50
30 40
```

Sample Input 3

```
6
1 4
1 5
1 6
1 7
2 5
3 5
```

Sample Output 3

```
5
1 7
1 6
1 5
2 5
3 5
```

DMOJ Editor's note

A sequence is an ordered list of elements. For example, $\{1, 5, 3\}$ is a sequence taken from elements of $\{1, 2, 3, 4, 5, 6\}$.