Distinct Sequence

Time Limit – 2 seconds

Mr. Shakil Ahmed got a set of intervals for his birthday. There are many games he can play with them. In one of them , Shakil 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 a integer T (<= 15) which denotes the number of test case and next T lines 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.

Constraints: $1 \leq A < B \leq 1\,000\,000$

Output:

For each case, print the case number followed by the length K (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	Sample Output
3 3 3 4 2 5 1 6 5 10 30 20 40 30 50 10 60 30 40 6 1 4 1 5 1 6 1 7 2 5 3 5	Case 1: 3 1 6 2 5 3 4 Case 2: 3 10 60 30 50 30 40 Case 3: 5 1 7 1 6 1 5 2 5 3 5