1019. Line Painting

Time limit: 2.0 second
Memory limit: 64 MB

The segment of numerical axis from 0 to 10^9 is painted into white color. After that some parts of this segment are painted into black, then some into white again and so on. In total there have been made N re-paintings ($1 \le N \le 5000$). You are to write a program that finds the longest white open interval after this sequence of re-paintings.

Input

The first line of input contains the only number N. Next N lines contain information about re-paintings. Each of these lines has a form:

a_i b_i c_i

where a_i and b_i are integers, c_i is symbol 'b' or 'w', a_i, b_i, c_i are separated by spaces.
This triple of parameters represents repainting of segment from a_i to b_i into color c_i ('w' — white, 'b' — black). You may assume that $0 < a_i < b_i < 10^9$.

Output

Output should contain two numbers x and y ($x < y$) divided by space(s). These numbers should define the longest white open interval. If there are more than one such an interval output should contain the one with the smallest x.

Sample

input	output
4 1 999999997 b 40 300 w 300 634 w 43 47 b	47 634

Problem Source: Ural State University Internal Contest '99 #2