Problem L. Lots Of Tasks

Input file:	*standard input*
Output file:	*standard output*
Time limit:	1 second
Memory limit:	1024 mebibytes

Bytica is top manager in big Byteotian company, so she has a lot of tasks to do.

There are n tasks she has to do, and the i-th task is going to take time range from l_i to r_i, inclusive. Note that $r_i - l_i$ is an even number, and that the ranges can intersect in any way.

Bytica decided to makes work easier — for each task, she will choose either the first half of the existing time range or the second. But she does not like to change her life so much, so for each moment of time that she was busy before the halving, she wants to be must be busy after it as well.

Bytica is considered busy at some point of time if she has at least one task to do.

You task is to find out whether Bytica is able make her life easier or not.

Input

The first line contains a single integer n ($1 \le n \le 200$) — the number of tasks. The next n lines describe each time range $[l_i, r_i]$ ($0 \le l_i < r_i \le 10^9$, $r_i - l_i$ is even), which are always integer.

Output

In a single line print "YES" if the answer is positive, or "NO" otherwise.

Examples

standard input	standard output
4 1 9 5 13 11 13 6 12	YES
3 46 76 0 2 45 75	NO