

A. Spit Problem

time limit per test: 2 seconds
memory limit per test: 256 megabytes
input: standard input
output: standard output

In a Berland's zoo there is an enclosure with camels. It is known that camels like to spit. Bob watched these interesting animals for the whole day and registered in his notepad where each animal spitted. Now he wants to know if in the zoo there are two camels, which spitted at each other. Help him to solve this task.

The trajectory of a camel's spit is an arc, i.e. if the camel in position x spits d meters right, he can hit only the camel in position $x + d$, if such a camel exists.

Input

The first line contains integer n ($1 \leq n \leq 100$) — the amount of camels in the zoo. Each of the following n lines contains two integers x_i and d_i ($-10^4 \leq x_i \leq 10^4$, $1 \leq |d_i| \leq 2 \cdot 10^4$) — records in Bob's notepad. x_i is a position of the i -th camel, and d_i is a distance at which the i -th camel spitted. Positive values of d_i correspond to the spits right, negative values correspond to the spits left. No two camels may stand in the same position.

Output

If there are two camels, which spitted at each other, output YES. Otherwise, output NO.

Examples

input
2 0 1 1 -1
output
YES

input
3 0 1 1 1 2 -2
output
NO

input
5 2 -10 3 10 0 5 5 -5 10 1
output
YES