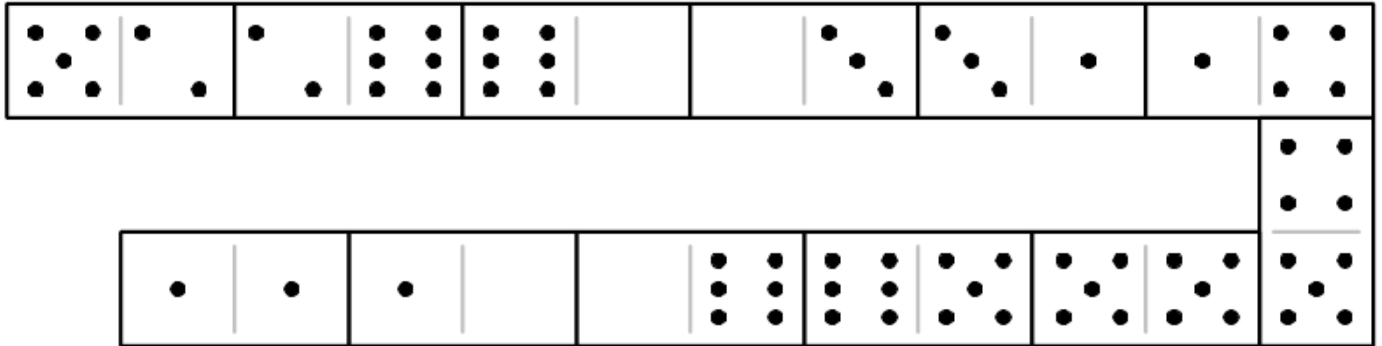


DOMINOES

Vasya, the bus conductor who likes to look for lucky tickets, is also good at playing dominoes. One day someone brought him a number of domino tiles, and he wondered if it would be possible to use all the tiles making a valid line of play, meaning that adjacent tiles touch with an equal number of spots. See an example below (the line makes turns in the figure):



Note: each domino is a 1x2 rectangular tile consisting of two squares (ends). Each end is marked with up to 6 spots or is blank.

Your task is to write a program that determines if it is possible to make a continuous line of play using a given set of n tiles. Adjacent tiles in the line must have an equal number of spots on the touching ends.

Limitations

$$1 \leq n \leq 1000.$$

Input

The first line of the input file contains an integer n , the number of tiles in the set. The following n lines describe the tiles. Each line contains two space-delimited integers from 0 to 6, the number of spots on the two ends of a tile.

Output

The program should output a single string (without quotation marks): "YES" if it is possible to make a continuous line of play using the given tiles, or "NO", otherwise.

Example

Nº	stdin	stdout
1	2 1 2 1 3	YES
2	3 1 2 1 3 1 4	NO
3	2	NO

1 2	
3 4	