Problem E: Bricks

Advanced Algorithms for Programming Contests

Restrictions

Time: 2 seconds
Memory: 512 MB

Problem description

Joe's parents have bought him a set of bricks as a birthday present. As he is currently in first grade, they decided to buy bricks that have single letters on each side.

Now Joe wants to demonstrate to his older sister that he already learned how to spell. For that he plans to place the bricks in such a way that they spell her name. But this is not an easy task, because two letters could be on different sides of the same brick – then Joe couldn't use both letters to make a word! However, a letter can appear on different bricks. Joe will require your help to figure this out.

Given a set of bricks and the name of Joe's sister. Find out if it is possible to place the bricks in such a way that they spell her name.

Input

The input consists of

- one line containing N ($1 \leq N \leq 100$) – the number of bricks in Joe's set
- one line containing the name of Joe's sister – a word with only capital letters not longer than 100 characters
- N lines each containing the 6 capital letters that are on the sides of the corresponding brick.

Output

Output `YES` if he can spell her name with the bricks and `NO` otherwise.

Sample input and output

Input	Output
4 ANN ANNNNN BCDEFG HIJKLM NOPQRS	NO
5 HELEN ABCDEF GHIJKL MNOPQL STUVWN EIUOZK	YES