

PROBLEM D. UNIQUELY DECODABLE CODE

Time limit: 1 second

In information theory, a code defines a mapping of source symbols into codewords.

You are given a code in which the i -th symbol of a source symbols consists of n distinct symbols, denoted by X_i , is mapped to codeword s_i .

A sequence of source symbols is encoded by concatenating the corresponding codewords. An encoded message is decodable if there is at least one sequence of source symbols that can be encoded to it. A code is uniquely decodable if for all decodable encoded messages there is only one corresponding sequence of source symbol.

For example, consider a code with $n = 2$, $s_1 = a$, $s_2 = bc$. The sequence of source symbol $X_1X_2X_1$ is encoded to $abca$. We can prove that this code is uniquely decodable.

Consider another code with $n = 5$, $s_1 = a$, $s_2 = bcd$, $s_3 = e$, $s_4 = abc$, $s_5 = de$. This code is not uniquely decodable, since with encoded message $abcde$ we have 2 ways to decoded it, they are $X_1X_2X_3$ and X_4X_5 .

Your task is to determine whether the given code is uniquely decodable or not.

Input

The first input line contains a positive integer T , the number of test cases. T groups of lines followed, each describes a test case. Each test case consists of:

- One line with a positive integer n .
- Then n lines followed, the i -th of them contains string s_i . s_i only consists of lower case letter 'a' to 'z'.

The sum of all n in all T test cases does not exceed 100000. The sum of length of all codewords s_i in all T test cases does not exceed 250000.

Output

Output T lines, each line contains “YES” or “NO” corresponds to the given code is uniquely decodable or not.

Sample

INPUT	OUTPUT
2	YES
2	NO
a	
bc	
5	
a	
bcd	
e	
abc	
de	