

# Love Guru

Recently after girls being allowed to get admitted into IUT, the number of couples in IUT(International University Of Technology) is gradually increasing. In last few months a problem has been noticed. More than one boy/girl had crush on same boy/girl. These created conflicts amongst students. To solve this problem, IUTRC(IUT Relationship Community) came up with a solution. They set up rules with whom a student can only get in a relationship. If your name and the other persons name has a common substring of length  $k$ , only then two you can engage yourselves in a relationship. Now, as a loveguru now students are coming to you for knowing if his relationship with his crush possible or not. Help them Love Guru.

## Input

First line contains two integer  $0 < n < 10000$  and  $1 < k \leq 100$ . It is guaranteed that  $n * m$  doesn't exceed  $10^6$

$n$  refers the number of people came for your help and  $k$  refers the minimum common substring size.

Then next  $n$  lines contains two space separated strings each containing only lower case letters. Name of the boy and name of the girl. no name contains less than 2 characters or more than 100 characters.

## Output

For each case on each line print "Yes" if possible and "No" otherwise.

## Example

### Input:

4 3

salman almiza

rizvi krizvia

abid nowmi

atondro iroboton

### Output:

Yes

Yes

No

Yes