Strict Rule

The teacher has taken the final exam of n groups separately. The lab room where he took the exam has personalised device setup. The setting was like that if more than one student has the same code(password) during a specific group exam, they can cheat during the exam by sharing answers. So sir has instructed them about this at the beginning.

Point to be noted, other group students can know the code since they will give exams in the same room and devices but in different question sets.

After a few days the teacher felt like they had cheated during the exam and since the teacher didn't want to bash any student personally, he made the decision that if any member of a specific group had cheated , he would give a “Fail” result to the entire batch. So he asked all the phones of all students and took the codes that logged on that day, and wrote it down.

You need to write a program to help the teacher to do the task efficiently, if the code/password matches with the same group, that means they had logged in at the same time when the exam was taken, and they had cheated since the teacher had forbidden it.

Input Format: The number of groups n(2<=n<=5), the total number of students combined in the batch m(5<=m<=50)
The m line follows. Their section number x and code number y.

Output Format: Print “Pass” (without quotes) if students from same group didn't share the code during exam and “Fail” otherwise

Sample Input:

```
3 10
1 238365
2 258235
3 376252
1 895243
1 625523
3 861255
2 566536
2 963366
2 238266
1 625523
```

Output:

```
Fail
```

Word Game

In trinity school, math teacher Bolsenaro asks the students to play a game with words. He tells two words length of n consisting of lower case latin letters and asks the students to find out if both words have the same characters that are set in a disposed way. Sir also said the word can be divided into many segments. There are many variations and asked to find any of the segments with distinct letters (if there are any).

You being the smart one who will take the word immediately after sir says and put them in your program and give the answer as fast as possible.

Input Format:
Line 1: The integer n (1<=n<=2000)
Line 2: The input consists of a single non-empty string, consisting only of lowercase english letters, the string's length doesn't exceed 200 characters.

Output Format:
In the first line, print Yes if there are the same characters in both words and No otherwise.
In the second line, print Yes if the 1st word has the unique segment and print any of the unique ones. No for otherwise.
In the third line, apply the exact same criteria for the second word.

Sample Input:
13
schizophrenia hypothesizing
Output:
No
Yes phrenia
Yes ypothesi