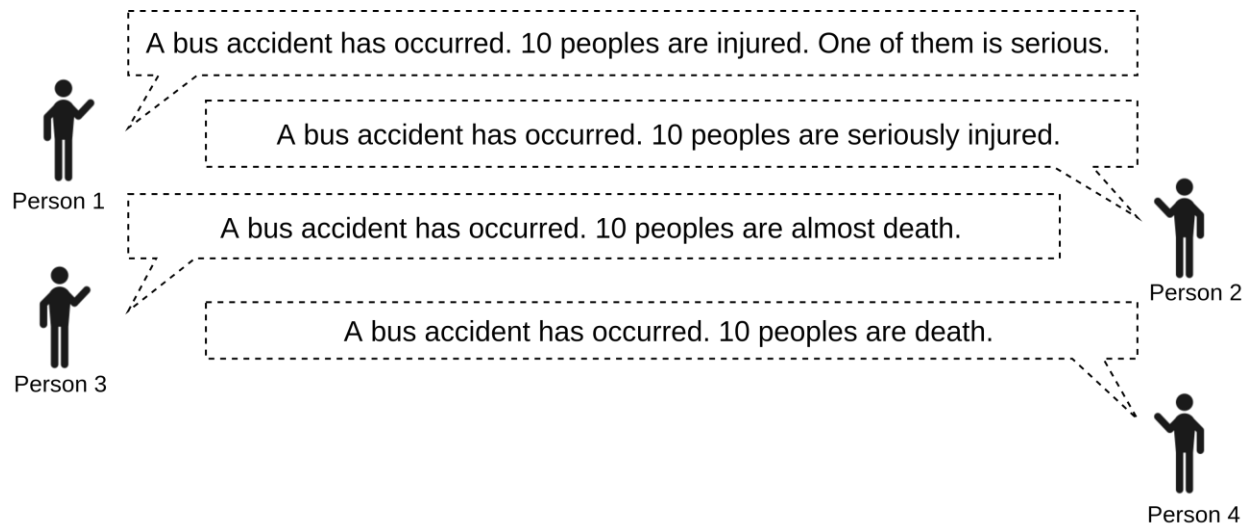


A	Fake News Detector	
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In this age of the internet, fake news and rumors have become a major headache. Peoples are often spread information in social media without verifying the authenticity of the source. Sometimes an authentic information gets changed while interpreting to others and sometimes a certain group creates fake news to fulfill their evil agenda. Fake news increases violence and public safety risk.

In this problem, we are going to work with the first types of fake news where the original information gets changed while interpreting to others. Look at the following example:



Here, the original information implies that no one has died. It gets interpreted by the different person differently and the final information implies that 10 peoples have died. The final information is definitely fake news.

To make your life easier, we are going to work with a more simplified version of this problem. Here, we are going to represent an information with a string instead of a sentence. We will give you a list of strings in the order they have been interpreted between consecutive persons. We will call an information fake news if the final string completely differs from the original string and there is at most one-character difference (replaced, added or removed. character position or order doesn't matter) between consecutive interpretation. If two consecutive string differs in more than one characters, then we will consider them as two different information. We will call two strings completely different if they do not have a common character.

Input:

At first, you will be given an integer **T** ($T \leq 20$) that denotes the number of test cases. Then, for each test case, the first line will have an integer **N** where $1 \leq N \leq 100$ denotes the number of strings for this test case. Then, there will be **N** lines each containing a string **S** consists of lowercase alphabets ($1 \leq \text{sizeof}(S) \leq 1000$). The strings will be given in the order they are interpreted by the first person to the second person, the second person to the third person and so on. The first string is the original information and the last string is the final information.

Output:

For each test case, print one line containing “**Case X: Fake News**” without the quotes if the given ordered strings meet the criteria for fake news. Otherwise, print “**Case X: Not Fake News**”. Replace **X** with the respective test case number. See sample input-output for more details.

Sample Input	Sample Output
3 5 abcd abcz axbz axyz wxyz 4 abcd abyz axyz wxyz 6 abcd abc xbc xybc xybz xyaz	Case 1: Fake News Case 2: Not Fake News Case 3: Not Fake News

Explanation 1: In the first case, each consecutive string differs by one character and the first and last string are completely different. Hence, it is fake news.

Explanation 2: In the second case, the first and second string differs by two characters. So, they will be considered as different information. Hence, it is not fake news.

Explanation 3: In the third case, first and the final string has one common character. So, the original information hasn't changed completely. Hence, it is not fake news.