

The 2024 ICPC Asia Hanoi Regional Contest

ICPC International Collegia

Hanoi University of Industry – 13 December 2024

Easy Game

Bash is teaching Chikapu how to write. In order to make learning more exciting, Bash bought a strip of paper of length n, divided into n cells, and came up with the following game:

- Bash and Chikapu agree on a string s which does not contain three consecutive identical letters.
- They also agree on a string a.
- Bash and Chikapu take turns alternatively with Bash going first.
- On each turn, a player writes a letter on one of the n cells. The chosen cell must be empty before this turn, and the chosen letter must belong to the string a.
- If, after a turn, there are consecutive cells which form the string s, the player making this turn wins.
- If there are no empty cells left and no one wins, the game ends in a draw.

Now Chikapu wonders about the outcome of the game if both players play optimally.

Input

The input consists of several test cases. The first line contains an integer t $(1 \le t \le 100)$ – the number of test cases. The description of the test cases follows:

- The first line contains a single integer $n \ (1 \le n \le 100)$,
- The second line contains the string s. The length of s is at most 100.
- The third line contains a string a. The length of a is at most 26.

It is guaranteed that s and a only contain lowercase letters.

Output

For each test case, output:

- Bash if Bash wins,
- Chikapu if Chikapu wins,
- Oh no! if they draw.



The 2024 ICPC Asia Hanoi Regional Contest



Hanoi University of Industry – 13 December 2024

Sample Input 1	Sample Output 1
2	Bash
50	Oh no!
p	
abcdefghijklmnopqrstuvwxyz	
2	
pika	
aeioupq	

Sample Explanation

In the first test case, s is p, so Bash writes the letter p and wins.

In the second test case, s is pika. However, letter k is not in a, so neither player can write k. As the result, the game is a draw.