

D. Strange disease

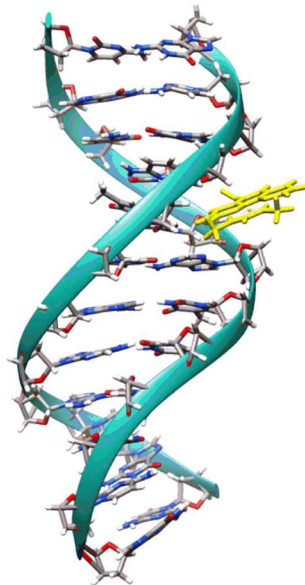
Time Limit: 3 seconds

Problem description

A new disease in chickens was discovered by veterinarians. After collecting samples from the chicken barn, the veterinarian wanted to find which chickens were infected.

DNA is a sequence of nucleotides including A, T, C, G.

After research, doctors found the DNA sample of the virus that causes the disease.



(1)

A chicken is determined to be infected when one of the permutations of the chicken DNA sequence contains DNA of virus.

In the barn there are N chickens. Your task is to help the doctor identify infected chickens.

For example, even if the DNA of virus is **TGAAG** and the list of DNA of 3 chickens is shown as below:

1. DNA of the 1st chicken is CC**AGGATT**AA, the 1st chicken is **infected** chicken because the one of permutations of **AGGAT** will be **TGAAG**.
2. DNA of the 2nd chicken is **ATCCG**ACCCAC**GGCGG**, the 2nd chicken is **infected** chicken because the one of permutations of **ATGAG** will be **TGAAG**.
3. DNA of the 3rd chicken is CCGACGACGCAAAC, the 3rd chicken is **uninfected** chickens because there are no permutations of CCGACGACGCAAAC will be **TGAAG**.

¹ <https://vsgif.com/>

Input data is given in the form

Line 1, contains the N that describes the number of chicken in the barn ($1 \leq N \leq 100$).

Line 2, contains V that is the DNA of virus. ($1 \leq |V| \leq 50$)

The next N lines, each line contains S_i that is the DNA of i^{th} chicken. ($0 \leq i \leq N-1$, $1 \leq |S_i| \leq 50$)

Note that, the DNA contains A, T, C, G only and the maximum length of DNA is 50 nucleotides.

Output result is given in the form

Contains N lines, the i^{th} line contains the test results corresponding to the i^{th} chicken, the results can be 1 (**infected**) or 0 (**uninfected**). ($0 \leq i \leq N-1$)

Example 1:

INPUT	OUTPUT
3	1
TGAAG	1
CCAGGATTAA	0
ATCCGACCCACGGCGG	
CCGACGACGCAAAC	

Example 2:

INPUT	OUTPUT
2	0
TAT	0
GACAT	
CCGCGCAACGGAGCC	