

Problem A

Elon Ma Wants to Protect His Secrets

Time limit: 3 seconds

Memory limit: 1024 megabytes

Problem Description

Elon Ma writes mysterious binary numbers in his notebook to represent secret dates or serial numbers. However, Download Trump always sneaks a peek at his notes.

Tired of this, Elon Ma decides to encrypt his secrets using a technique he learned from his computer science class – a bitwise XOR mask – which he calls the Elon Mask.

For example, if the secret is 1011001 and the Elon Mask is 1101101, the encrypted value will be:

$$\begin{array}{r} 1011001 \\ \oplus 1101101 \\ \hline 0110100 \end{array}$$

Elon writes only the encrypted values in his notebook.

But doing the encryption manually every time is just too exhausting for Elon Ma.

Please write a program to help him out!

Input Format

The first line contains an integer T ($1 \leq T \leq 100$), the number of test cases.

Each test case begins with a line containing: An integer n ($1 \leq n \leq 10$), the number of encrypted binary strings. Followed by a binary string mask – the Elon Mask (length L)

The next n lines, each line contains a sequence of L binary digits (consist with 0s and 1s), representing the encrypted values.

Output Format

For each encrypted value, output the original secret binary string obtained by applying XOR with the Elon Mask.

Each result should be printed on a separate line.

Technical Specification

- $1 \leq T \leq 100$
- $1 \leq n \leq 10$
- The mask and the encrypted values consist only of 0 and 1, and all of them have the same length L ($1 \leq L \leq 100$) within each test case.

Sample Input 1

```
1
3 1101101
0110100
1010000
0000000
```

Sample Output 1

```
1011001
0111101
1101101
```