Problem A. Message from aliens

Input file:	standard input
Output file:	standard output
Time limit:	1 second
Memory limit:	256 megabytes

Aliens use the English alphabet to communicate. However, they have an entirely different language, but it's based on a one-to-one (bijective) mapping of letters from Alien to English. Be careful though, lower-case and upper-case letters in English aren't necessarily the same in the alien language. For example, the word "CARS"in the alien language translates to "Unil"in English, whereas the word "cars"in alien language translates to "EPFL".

The Aliens have invaded Earth! But, we have intercepted their communications. Help us translate their messages to English.

Input

The input consists of multiple test cases, the first line of the input file contains one integer T denoting the number of test cases ($0 < T \leq 10$).
Each test case contain 2 lines :
- First line of the test case contains an integer $n(1 \leq n \leq 100)$.
- The second line contains a sentence in the alien language, consisting of n space-separated words each consisting of lower-case and upper-case English letters. The total number of letters in the sentence is at most 10^5.

Output

For each test case print, on a single line, n space-separated words representing the English translation of the sentence.

Example

standard input	standard output
5 1 CARS 1 cars 3 IuVEJxTXs UvOHhng yZKfAYmaqolM 3 NtGQibw djPrCpek FWzL 3 aySBaPyb RM gzYMynY	Unil EPFL vpVZzBNtL SCubWma ocIYneAPqxDs hRkMGgJ fHrFUQTj XOwd PolyProg is awesome