

Upper Lower

Bibi also wants to challenge Jojo and Lili. She has a string S with N as its length. The string can contain uppercase and lowercase characters. Then she will do an iteration from the start of the string, if the K -th character is an uppercase character, then she will change all the characters after it, such that uppercase character will become lowercase and lowercase character will become uppercase. After the end of the iteration, she will ask Jojo and Lili what is the string.

Format Input

The first line of the input will contain an integer T , the number of test cases.
Each test case will contain a string S and an integer N as its length.

Format Output

For each test case, print "Case #X: " (X starts with 1). Then on the same line, print the string after the iteration.

Constraints

$1 \leq T \leq 10$

$1 \leq N \leq 100,000$

The string will only consist of uppercase and lowercase characters.

Sample Input	Sample Output
3 UpPeRcAsE 9 lowErCaSE 9 UPPERlower 10	Case #1: UPPERCAse Case #2: lowERCAsE Case #3: UpperLower

Explanation

On the first case:

'U' is in uppercase, so will change "pPeRcAsE" to "PpErCasE"

'P' is in uppercase, so will change "pErCasE" to "PeRcAsE"

'P' is in uppercase, so will change "eRcAsE" to "ErCasE"

'E' is in uppercase, so will change "rCasE" to "RcAsE"

'R' is in uppercase, so will change "cAsE" to "CasE"

'C' is in uppercase, so will change "asE" to "AsE"

'A' is in uppercase, so will change "Se" to "sE"

's' is in lowercase, so do nothing

'E' is in uppercase, but it is the last character, so change nothing