

Encrypted String

Miss Varsha is very concious about her belongings. She doesn't want to share her things with anyone and so she wants to secure all her codes with a special type of encription.

She is good at coding but she needs your help, to encrypt her computer.

She is replacing every character of the password with a new character, according to which you have to determine the entire string.

Input

First line of input will contain number of test cases(n).Then 2n lines will follow ie. two line for each test case. First line will contain the string second line will contain the original character and the replacing character seperated by the space, respectively.You have to encrypt the entire string based on the method of replacement.

Output

Output will contain only one encrypted String for each test case, in the format "Case #i: "(i denotes the i'th test case)

Example

Input:

```
1
FRENZLIFE
R U
```

Output:

```
Case 1#: IUHQCOLIH
```