# Alphabetic Relation

Guitar is the most popular musical instrument in the world. There are some relation between notes and chords. Combinations of some notes create a chord and combining some chords create a song. When some chords make a song then the relation is created. Generally chords are expressed with some English letters. Always the sequence of chords will repeat in a circle of chords among A → B → C → D → E → F → G. To create a song at most 2 chords are essential. The relations among these some chords are generally called chord relation but I named this relation as Alphabetic Relation. My friend Anjan is a good guitarist. He wants to play the song in different chords rather playing the song in the original chords but maintains the sequence of original chords relation.

## Input

All character are in uppercase (A - Z).

The first line of the input contains an integer T (0 < T < 1000) number of test cases. Two input in every test case. First input **S (2 < length of S < 5000001)** string that indicates the relation of original song chords and second input is character **C** that indicates which chord Anjan want to start the song.

## Output

For each case, print the case number and the Alphabetic relation (or chord relation what you say) of **C** which chords Anjan wants to play. Print a blank line between test cases.

## Example

**Input**
3
DGA
E
ABC
D
CFG
A

**Output:**
Case 1: EAB

Case 2: DEF

Case 3: ADE

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