

Scrambled Chatlog

Lea is in tears. Just one or two hours ago, everything was still fine. She was surfing the internet on her phone and spent several hours looking at particularly cute pictures of kittens. Then, just as she got bored, she got a tweet from a seemingly very friendly person that said she should totally check out this new app called “KittenTube”.

Totally hyped, she installed the app and was instantly greeted by heaps of pictures of cute kittens. Unfortunately however, she did not notice that the app had been developed by **TROLL Inc** (Trolls, Ruffians, Obvious Lamers and Lowbobs) where all employees are maliciously evil (but not very bright) hackers. So when Lea installed the app, it totally scrambled her complete chat history. Her messages now all look like “11#ma tonight?Cine”.

Now, the hackers want her to pay an enormous sum of money to unscramble her chat history for her. But as soon as Lea settled down, she thought she might be able to write a program to fix her history herself. Can you help her with that?

Input

The input starts with a line containing an integer t . t lines follow. Each of the following lines contains a string in the format “ $x\#str$ ” where each x is a number and str is the scrambled content of the message. To restore the original message, you have to split the string after x characters and swap the two halves.

Output

For each test case, output one line containing “Case $\#i$: msg ” where i is its number, starting at 1, and msg is the unscrambled message. Beware: as Lea has had her phone for quite a while, her chat log has grown quite large.

Constraints

- $1 \leq t \leq 2 * 10^5$
- $2 \leq |str| = |msg| \leq 160$
- $1 \leq x < |str|$
- str consists of letter from “a” to “z”, “A” to “Z”, spaces, any of the following: “.,?!*;-/” in addition to round and square brackets

Sample Input 1

```
4
27#o the programming homework?Hey - did you d
13#/ Is it hard?Not yet :
25#ly. Just a little coding.Well ... not real
9#ght then.Ah - alri
```

Sample Output 1

```
Case #1: Hey - did you do the programming homework?
Case #2: Not yet :/ Is it hard?
Case #3: Well ... not really. Just a little coding.
Case #4: Ah - alright then.
```