Problem F. Mr. Panda and Fantastic Beasts

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Input file:     Standard Input
Output file:    Standard Ouptut
Time limit:     2 seconds
```

Mr. Panda loves fantastic beasts, he is going to use a magic spell to figure out where to find them. Given N strings S_1, S_2, $\cdots$, S_N where S_i only contains lowercase alphabet letters, the magic spell is the shortest string which is only contained in the first string as a substring. If there is at least one solution, output the lexicographically smallest one.

If there is no solution, output "`Impossible`" instead.

Input

The first line of the input gives the number of test cases, T. T test cases follow.

Each test case contains an integer N which is the number of strings.

Following is N lines, each line has a non-empty string S_i which only contains lowercase alphabet letters.

Output

For each test case, output one line containing "`Case #x: y`", where `x` is the test case number (starting from `1`) and `y` is the the answer string or "`Impossible`".

Limits

- $1 \leq T \leq 42$.
- $2 \leq N \leq 50000$.
- $N \leq S_1 + S_2 + \cdots + S_N \leq 250000$.
- the sum of S_i in all test cases doesn't exceed 3×10^6.

Sample input and output

Sample Input	Sample Output
3 2 aba bab 3 qnu cvbb bnu 3 a aa aaa	Case #1: aba Case #2: q Case #3: Impossible