7405 Friendship of Frog

N frogs from different countries are standing in a line. Each country is represented by a lowercase letter. The distance between adjacent frogs (e.g. the 1st and the 2nd frog, the $(N-1)$-th and the N-th frog, etc) are exactly 1. Two frogs are friends if they come from the same country.

The closest friends are a pair of friends with the **minimum** distance. Help us find that distance.

Input

First line contains an integer T, which indicates the number of test cases.

Every test case only contains a string with length N, and the i-th character of the string indicates the country of i-th frogs.

Restrictions:

- $1 \leq T \leq 50$.
- for 80% data, $1 \leq N \leq 100$.
- for 100% data, $1 \leq N \leq 1000$.
- the string only contains lowercase letters.

Output

For every test case, you should output '`Case #`x`:` y', where x indicates the case number and counts from 1 and y is the result. If there are no frogs in same country, output '`-1`' instead.

Sample Input

```
2
abcecba
abc
```

Sample Output

```
Case #1: 2
Case #2: -1
```