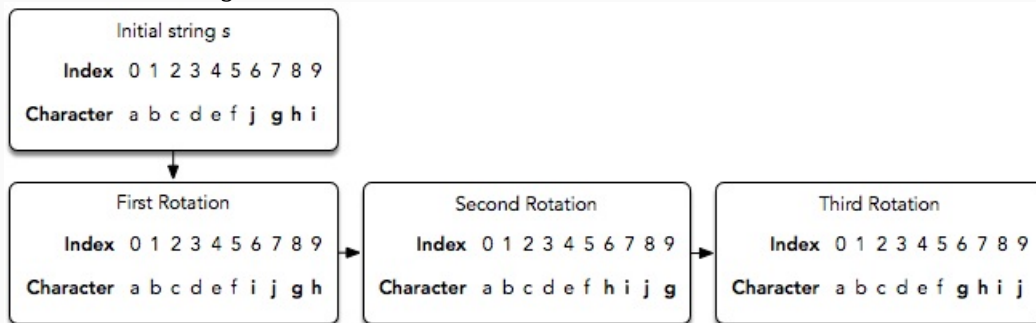


Megan is playing a string game with the following rules:

- It starts with a string,  $s$ .
- During each turn, she performs the following move:
  - Choose an index in  $s$ . The chosen index must be strictly greater than any index chosen in a prior move.
  - Perform one or more circular rotations (in either direction) of the suffix starting at the chosen index.

For example, let's say  $s = \text{abcdefghij}$ . During our move, we choose to do three right rotations of the suffix starting at index **6**:



Note that this counts as *one* move.

- The goal of the game is to convert  $s$  into the [lexicographically smallest](#) possible string *in as few moves as possible*. In other words, we want the characters to be in alphabetical order.

Megan plays this game  $g$  times, starting with a new string  $s$  each time. For each game, find the minimum number of moves necessary to convert  $s$  into the lexicographically smallest string and print that number on a new line.

### Input Format

The first line contains an integer,  $g$ , denoting the number of games.

Each of the  $g$  subsequent lines contains a single string denoting the initial value of string  $s$  for a game.

### Constraints

- $1 \leq g \leq 100$
- $1 \leq |s| \leq 1000$
- $s$  consists of lowercase English alphabetic letters only.

### Output Format

For each game, print an integer on a new line denoting the minimum number of moves required to convert  $s$  into the lexicographically smallest string possible.

### Sample Input 0

```

3
abcdefghij
acab
baba
  
```

### Sample Output 0

```

0
1
2
  
```

### Explanation 0

We play the following  $g = 3$  games:

1. In the first game,  $\text{abcdefghij}$  is already as lexicographically small as possible (each sequential letter

- is in alphabetical order). Because we don't need to perform any moves, we print **0** on a new line.
2. In the second game, we rotate the suffix starting at index **1**, so **acab** becomes **aabc**. Because the string is lexicographically smallest after one move, we print **1** on a new line.
3. In the third game, we perform the following moves:
- Rotate the suffix starting at index **0** (i.e., the entire string), so **baba** becomes **abab**.
  - Rotate the suffix starting at index **1**, so **abab** becomes **aabb**.

Because the string is lexicographically smallest after two moves, we print **2** on a new line.