

Problem G

John and Brus are studying string theory at the university. According to Brus, a string is called lucky if no two consecutive characters are equal. John is analyzing a String s , and he wants to know how many distinct lucky strings can be generated by reordering the letters in s . If s is a lucky string in its original ordering, it should also be considered in the count.

The first line of the input contains t , the number of test cases, followed by t lines. Each test case is represented by a single string s .

Restrictions:

- s will contain between 1 and 10 characters, inclusive.
- Each character of s will be a lowercase letter ('a' - 'z').

Example:

Input:

```
2
ab
abcdefghij
```

Output:

```
2
3628800
```

In the first case we have two lucky strings - "ab" and "ba".