

A palindrome is a sequence of one or more characters that reads the same from the left as it does from the right. For example, Z, TOT and MADAM are palindromes, but ADAM is not.

Given a sequence S of N capital latin letters. How many ways can one score out a few symbols (maybe 0) that the rest of sequence become a palindrome. Variants that are only different by an order of scoring out should be considered the same.

Input

The input file contains several test cases (less than 15). The first line contains an integer T that indicates how many test cases are to follow.

Each of the T lines contains a sequence S ($1 \leq N \leq 60$). So actually each of these lines is a test case.

Output

For each test case output in a single line an integer — the number of ways.

Sample Input

```
3
BAOBAB
AAAA
ABA
```

Sample Output

```
22
15
5
```