

Problem F

Palaindrome

Time limit: 1 second
Memory: 1024 megabytes

Problem Description

A string is called a palindrome if it reads the same forwards and backwards. For example: abcba, maddam, etc. You are given a string **S** with a length not exceeding **5000**, consisting of lowercase letters, and **Q** queries. For each query, you will be provided with a positive integer **K** ($K \leq |S|$), and you need to count how many ways there are to choose a subsequence that is a palindrome of length **K**.

Input:

- The first line: contains the string **S**.
- The second line: contains a positive integer **Q** ($Q \leq 10^5$).
- The next **Q** lines: each contains a positive integer **K**.

Output:

- On the screen: contains **Q** lines, each line shows the number of ways to choose a palindrome of length **K**.

Example:

INPUT	OUTPUT
aababcba	1
3	1
2	3
5	
3	