Problem J
Joining Letters

A few years ago, Prof. H became the champion of the *Super Cup* in the *Informatics Olympiad for Vietnamese students* two times in a row! As he was the first person ever who achieved such a great triumph, he quickly became a bright star in the world of showbiz. One of Prof. H's most loyal fan, Mr. Qu, gave him a bizzare present, which is... a string S.

As Prof. H's next challenge is the Annual World Final of the ICPC, he was thinking of the following problem: *Suppose that I want to pick four different characters from the string S, so that no two consecutive characters are both chose, and combining these letters together without changing their original order gives me the word* `ICPC`*. How many ways to do that?*

Formally, let number the characters of the string S from 1 to n, inclusive. Your task is to count the number of tuples of indices (x, y, z, t) such that:

- $1 \le x < y < z < t \le n$
- $\min(y - x, z - y, t - z) > 1$
- The x-th, y-th, z-th and t-th characters of S are `I`, `C`, `P` and `C`, respectively.

Input

The input consists of multiple test cases. Each test case is presented in a line containing the string S. It is guaranteed this string contains uppercase English letters only, and its length is between 1 and 150000, inclusive.

The input is terminated by the a single line containing a single character `$` which is not a test case.

It is guaranteed that the total length of all strings S in the input is a positive integer and does not exceed 10^6.

Output

For each test case, print on a line a single integer — the number of tuples as described above.

Explanation of the sample

In the first test case, there are five valid tuples:

- $(1, 3, 5, 7)$
- $(1, 3, 5, 8)$
- $(1, 3, 6, 8)$
- $(1, 4, 6, 8)$
- $(2, 4, 6, 8)$

Sample Input 1	Sample Output 1
IICCPPCC INTERNATIONALCOLLIGIATEPROGRAMMINGCONTEST GOODLUCKHAVEFUN ENJOYYOURTIMEATHCMUTEANDHAPPYCODDING WISHYOUMANYACCEPTEDCODE RIGIONALICPCRIGIONALICPCRIGIONALICPC $	5 2 0 2 2 10