Substrings are strings formed by choosing a subset of contiguous characters from a string. This is well known. A little more obscure is the definition of substhreengs. A substhreeng is a substring which complies to the following additional requirements:

1. It is non-empty, and composed entirely of base 10 digits.
2. Interpreted in base 10 (allowing extra leading zeros), the resulting integer is a multiple of 3.

For instance, the string "`130a303`" contains 9 substhreengs: the substhreeng '`3`' three times, the substhreengs '`30`' and '`0`' twice each, and the substhreengs '`303`' and '`03`' once each. The substring '`30a3`' is not a substhreeng because it is not composed entirely of base 10 digits, while the substring '`13`' is not a substhreeng because 13 is not a multiple of 3.

Notice that two substhreengs are considered different if they are different in length or start at a different position, even if the selected characters are the same.

Given a string, you are asked to count the number of substhreengs it contains.

Input

The input contains several test cases; each test case is formatted as follows. A test case consists of a single line that contains a non-empty string S of at most 10^6 characters. Each character of S is either a digit or a lowercase letter.

Output

For each test case in the input, output a line with an integer representing the number of substhreengs contained in S.

Sample Input

```
130a303
0000000000
icpc2014regional
```

Sample Output

```
9
55
2
```