Encoding schemes are often used in situations requiring encryption or information storage/transmission economy. Here, we develop a simple encoding scheme that encodes particular types of words with five or fewer (lower case) letters as integers.

Consider the English alphabet {a,b,c,...,z}. Using this alphabet, a set of *valid* words are to be formed that are in a strict lexicographic order. In this set of *valid* words, the successive letters of a word are in a strictly ascending order; that is, later letters in a valid word are always *after* previous letters with respect to their positions in the alphabet list {a,b,c,...,z}. For example,

```
abc aep gwz
```

are all *valid* three-letter words, whereas

```
aab are cat
```

are not.

For each *valid* word associate an integer which gives the position of the word in the alphabetized list of words. That is:

```
a -> 1
b -> 2
.
.
z -> 26
ab -> 27
ac -> 28
.
.
az -> 51
bc -> 52
.
.
vwxyz -> 83681
```

Your program is to read a series of input lines. Each input line will have a single word on it, that will be from one to five letters long. For each word read, if the word is *invalid* give the number '0'. If the word read is *valid*, give the word's position index in the above alphabetical list.

Input

The input consists of a series of single words, one per line. The words are at least one letter long and no more that five letters. Only the lower case alphabetic {a,b,...,z} characters will be used as input. The first letter of a word will appear as the first character on an input line.

The input will be terminated by end-of-file.

Output

The output is a single integer, greater than or equal to zero (0) and less than or equal 83681. The first digit of an output value should be the first character on a line. There is one line of output for each input line.

Sample Input

```
z
a
cat
vwxyz
```

Sample Output

```
26
1
0
83681
```