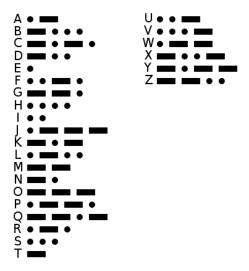# Morse Enumeration (prob6)

Morse code was a very widespread communication format before the use of telephones and computers. In fact, Morse code is still in widespread use simply because of its simplicity and clarity on noisy signals. However, one problem can arise with this method of communication: exact meaning. Consider the table below (retrieved from `http://en.wikipedia.org/wiki/Morse_code`):

Notice that Morse code specifies spacing between letters, and a different spacing between words. If those spaces were lost, it would be impossible to determine the correct meaning of the message without examining all possible transmitted messages. For instance, consider the string ".-". The two characters together could encode the single letter "A" or the string "ET". As strings grow longer, the number of potential meanings grows as well. For instance, the string ".-..." has 15 possible interpretations: "AEEE", "AEI", "AIE", "AS", "EB", "EDE", "ENEE", "ENI", "ETEEE", "ETEI", "ETIE", "ETS", "LE", "REE", and "RI".

You job is, given a message in International Morse Code, determine the number of strings of letters it could represent.

Input

The input will consist of a number of lines with length no greater than 30 characters. The end of input will consist of line with a "#" at the beginning.

Output

For each test case, print the number of possible messages that can encoded with the given series of dashes and dots on a separate line.

Sample Input

```
.-
....
.-...
#
```

Sample Output (corresponding to sample input)

```
2
8
15
```