Instructure Coding Competition

Home Problems (0/31) Settings Help
Your current score is: 0/31

Announcements:

9/10 10:33am Welcome to the Instructure MebiPenny Coding Competition. Email mebipenny@instructure.com if you have any questions.

> **IMPORTANT:** Go to your contact information and make sure it is up-to-date. There are several people who have done well on the practice problems that don't have a name or email address set. *If you don't have a name and email address set you will not continue to the final round.*
>
> **The first round problems are now posted! Good luck!** (We may add a couple more problems later if necessary.)
>
> Please make sure you read the Help tab if you get stuck on something. Lots of frequently asked questions are answered there.

Hexcode

0/6 tests passed in 0.47 seconds. Errors: wrong_answer

14 people have attempted this problem, with an average test success rate of 3.00/6.

```
Benji and Heidi work at George Films. The founder of George Films, Lucas George,
has recently started making questionable editorial decisions regarding
rereleases of his work, and Benji and Heidi want to discuss it privately.

Heidi tells Benji to send him coded messages using a hexadecimal encoding. Heidi
assumes Benji will use the standard ASCII encoding for the alphabet, but Benji
opts to use the following mapping instead.

a = 1       h = 8       o = F       v = 16
b = 2       i = 9       p = 10      w = 17
c = 3       j = A       q = 11      x = 18
d = 4       k = B       r = 12      y = 19
e = 5       l = C       s = 13      z = 1A
f = 6       m = D       t = 14
g = 7       n = E       u = 15

Benji's test message is "hanshotfirst," which he encodes as "81E138F1469121314."
Heidi meets with him later to discuss the problem she sees.

"Benji," Heidi says, "letters before 'p' all use a single digit in your scheme,
but letters 'p' and up use two digits. It's ambiguous. I could decode your
message as 'hanachotfiract,' or as 'hanshoadfirsad,' or even as
```

'hanachoadfiabacad,' for example."

Benji replies, "no no, it's fine," sort of waving his hands above his head. "It's ambiguous, but that's what makes it a better code. Those other decodings of my message don't make sense. You should be able to just pick the decoding that actually makes sense and isn't crazy. This is more secretive and harder to crack."

Heidi isn't convinced. "I bet if you gave me a string of any paragraph-sized length, there would be too many decodings to make sorting through which ones make sense intractable."

Who's right? Given a string of characters [0-9A-F], how many possible messages could have generated the string given Benji's encoding? Your job is to write a program that answers this question.

Your input will be an arbitrary number of strings, one per line. Each line will be a valid encryption (so, no line will start with a "0", for example). The input will end when you receive the string "0". For each string prior to "0" that you receive, you should output the number of possible decodings that string has, one per line.

Example:

STDIN:

```
85CCF
11211
191191012F7121DD9E7
0
```

STDOUT:

```
1
6
24
```

This problem has one or more test cases that have additional timelimits. You may need to pay attention to performance/algorithmic complexity.

There are 6 test cases for this problem.

[Please select]

Choose File No file chosen

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