Problems (/problems) / classical (/problems/classical) / Alphacode

ACODE - Alphacode

#dynamic-programming (/problems/tag/dynamic-programming)

Alice and Bob need to send secret messages to each other and are discussing ways to encode their messages:

> Alice: "Let's just use a very simple code: We'll assign 'A' the code word 1, 'B' will be 2, and so on down to 'Z' being assigned 26."
>
> Bob: "That's a stupid code, Alice. Suppose I send you the word 'BEAN' encoded as 25114. You could decode that in many different ways!"
>
> Alice: "Sure you could, but what words would you get? Other than 'BEAN', you'd get 'BEAAD', 'YAAD', 'YAN', 'YKD' and 'BEKD'. I think you would be able to figure out the correct decoding. And why would you send me the word 'BEAN' anyway?"
>
> Bob: "OK, maybe that's a bad example, but I bet you that if you got a string of length 5000 there would be tons of different decodings and with that many you would find at least two different ones that would make sense."
>
> Alice: "How many different decodings?"
>
> Bob: "Jillions!"

For some reason, Alice is still unconvinced by Bob's argument, so she requires a program that will determine how many decodings there can be for a given string using her code.

Input

Input will consist of multiple input sets. Each set will consist of a single line of at most 5000 digits representing a valid encryption (for example, no line will begin with a 0). There will be no spaces between the digits. An input line of '0' will terminate the input and should not be processed.

Output

For each input set, output the number of possible decodings for the input string. All answers will be within the range of a 64 bit signed integer.

Added by:	Adrian Kuegel (/users/ak15)
Date:	2005-07-09
Time limit:	0.5s
Source limit:	50000B
Memory limit:	1536MB
Cluster:	Cube (Intel G860) (/clusters/)
Languages:	All
Resource:	ACM East Central North America Regional Programming Contest 2004

Example

```
Input:
25114
1111111111
3333333333
0

Output:
6
89
1
```

 ✈ Submit solution! (/submit/ACODE/)

hide comments

zaks84780 (/users/zaks84780): 2024-06-14 15:06:18
It's literally word play, don't waste your time bugging over repeated WAs

fritzp (/users/fritzp): 2023-10-21 21:46:20
I don't have the faintest idea of how to do it

micku_22 (/users/micku_22): 2023-04-10 12:03:06
very weak test cases, my solution which was missing an obvious edge cases got accepted

boominggem (/users/boominggem): 2023-01-17 08:04:34
haha! I was so blind to the testcases, We wont be questioned with invalid testcases like 10001 but, the answer to a testcase like : 3120101 will be 1 (CATJA). The comments have more testcases :)

mdsharique (/users/mdsharique): 2022-10-28 10:27:09
easy one

Last edit: 2022-10-28 10:28:04

helloji_69 (/users/helloji_69): 2022-10-11 09:32:48
i think the problem statement is not clear as like in"102," "02" can be treated as 2 but it does accept it when coded this way. So any one getting WA just dont assume the above statement and you will be good to go.

Last edit: 2022-10-11 09:33:53

vidhan_1234 (/users/vidhan_1234): 2022-10-03 08:26:29
88888

yugalpradhan (/users/yugalpradhan): 2022-08-21 23:15:45
Warning!!! spam is here
why I am getting wrong answer.
Here is my code, please help me
<snip>
[Simes]: Read the footer - Don't post source code here, use the forum.

Last edit: 2022-08-22 08:52:41

sarkybastard (/users/sarkybastard): 2022-05-16 14:14:39
@lahiru. a weak test case means a possibly incorrect solution gets AC, it does not mean a good solution gets
WA. A far more likely explanation for your WA is that youve written an incorrect solution.

lahiru (/users/lahiru): 2022-05-16 06:06:37
Yeah, there is definitely a weak test case somewhere here. There is literally no reason for my code to get WA. I
think @kennedy777 was right