Lucky Driving

ALL SUBMISSIONS SUBMIT

Problem code: LUKYDRIV

All submissions for this problem are available.

*"Nine is considered a **good** number in Chinese culture because it sounds the same as the word "long-lasting". Hence many*
*people want their car registration numbers to sum up to **9** on adding the digits recursively.*

*A car registration number can consist of 1,2,3 or 4 digits. Examples of some **good** car numbers are 63, 018, 9099, etc. whereas 12,129 are not **good**.*

*Why is **9099 good**?*

9+0+9+9 = 27

*2+7 = **9***

*Similarly it is not difficult to see why 63, 018, 6669, 9999… are **good**."*

Given a string of digits, print how many subsequences of the string result in **good** car registration numbers.

Note:

The zeros at the starting of the number are to be accounted for, i.e. 018 and 18 are different numbers.

Input

First line of the input contains **T (T <= 200)** denoting the number of test cases. **T** lines follow each containing a non-empty single
string **S**. **S** contains only digits i.e. from **[0-9]**. Length of **S <= 10000**.

Output

For each case print how many subsequences of the string result in **good** car registration numbers. As the answer can be quite large print it modulo **1000000007**.

Example

Input
2
10292
0189

Output
2
6

Author:	kaushik_iska
Tester:	laycurse
Editorial	http://discuss.codechef.com/problems/LUKYDRIV
Tags	aug12 dp kaushik_iska number-theory
Date Added:	21-04-2012
Time Limit:	2 sec
Source Limit:	50000 Bytes
Languages:	ADA, ASM, BASH, BF, C, C99 strict, CAML, CLOJ, CLPS, CPP 4.3.2, CPP 4.8.1, CPP11, CS2, D, ERL, FORT, FS, GO, HASK, ICK, ICON, JAR, JAVA, JS, LISP clisp, LISP sbcl, LUA, NEM, NICE, NODEJS, PAS fpc, PAS gpc, PERL, PERL6, PHP, PIKE, PRLG, PYTH, PYTH 3.1.2, RUBY, SCALA, SCM guile, SCM qobi, ST, TCL, TEXT, WSPC

Comments

Please login at the top to post a comment.

SUCCESSFUL SUBMISSIONS

User	Time	Mem	Lang	Solution
progkiller123	0.14	2.8M	C++ 4.3.2	View
jaig	0.14	2.8M	C++ 4.3.2	View
abhik_geek	0.14	2.8M	C++ 4.3.2	View
deepak_040	0.16	2.9M	C++ 4.3.2	View
aoitest	0.18	6.8M	C++ 4.3.2	View
zentropy	0.19	2.8M	C++ 4.3.2	View
setac	0.19	2.9M	C++ 4.3.2	View
deepak_123	0.19	2.9M	C++ 4.3.2	View
shavron	0.21	2.8M	C++ 4.3.2	View
vivek07672	0.25	2.8M	C++ 4.3.2	View
jyotesh	0.27	1.6M	C	View
rajeshkumar94	0.28	7.4M	C++ 4.8.1	View

1 of 7 Next »

HELP

Program should read from **standard input** and write to **standard output**. After you submit a solution you can see your results by clicking on the **[My Submissions]** tab on the problem page. Below are the possible results:

- **Accepted** Your program ran successfully and gave a correct answer. If there is a score for the problem, this will be displayed in parenthesis next to the checkmark.
- **Time Limit Exceeded** Your program was compiled successfully, but it didn't stop before time limit. Try optimizing your approach.
- **Wrong Answer** Your program compiled and ran succesfully but the output did not match the expected output.

rajsahae *@ 12 Aug 2012 01:32 PM*

Can someone show me the subsequences in 0189 and 10292 that are good, because I wrote them out by hand and I only get 1 subsequence for 10292 ("9" only) and 5 subsequences for 0189 ("018", "0189", "18", "189", and "9"). Am I not understanding the problem? I'm just trying to understand the problem here, because according to my count, the output they gave is wrong (but I'm sure it's much more likely that I am wrong somehow). Thanks.

gdisastery1 *@ 12 Aug 2012 01:37 PM*

Read the problem statement carefully: "Note: The zeros at the starting of the number are to be accounted for, i.e. 018 and 18 are different numbers. " Hope you can figure it out.

rajsahae *@ 12 Aug 2012 01:44 PM*

I believe I accounted for that. As you can see in my list, I specifically noted 18 and 018 as different substrings, as I did for 189 and 0189.

gdisastery1 *@ 12 Aug 2012 07:36 PM*

{"189, 0189, 09, 9, 18, 018"}

rajsahae *@ 12 Aug 2012 10:08 PM*

So subsequences don't have to be continuous? That seems extremely non-intuitive to me and maybe the problem should be amended to clearly define what definition of "subsequence" we are to assume.

rahullak *@ 13 Aug 2012 05:54 PM*

@rajsahae Subsequences are defined in wikipedia. Its a mathematical concept.

rahullak *@ 13 Aug 2012 05:55 PM*

I'm using Java, and I keep getting time-limit exceeded :(

anubhavduke *@ 16 Aug 2012 12:17 AM*

if the limit for s is 10000 then how the input can be 10292

mynameborat *@ 16 Aug 2012 08:26 AM*

@anubhavduke the limit denotes the length of the input string

sensunnysen *@ 17 Apr 2014 08:43 PM*

how 18 and 018 are different..plz tell me ..i m new on codechef..i m little good in coding.. thank u

- **Runtime Error** Your code compiled and ran but encountered an error. The most common reasons are using too much memory or dividing by zero. For the specific error codes see the help section.

- **Compilation Error** Your code was unable to compile. When you see this icon, click on it for more information.

If you are still having problems, see a sample solution here.

programmers and sharing their ideas. Have discussions around **binary search, array size, branch-and-bound, Dijkstra's algorithm, Encryption algorithm** and more by visiting the CodeChef Forums and Wiki section.

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