



HOME TOP CATALOG CONTESTS GYM PROBLEMSET GROUPS RATING EDU API CALENDAR HELP 0

PROBLEMS SUBMIT CODE MY SUBMISSIONS STATUS STANDINGS CUSTOM INVOCATION

C. Digital Root

time limit per test: 2 seconds memory limit per test: 256 megabytes

Not long ago Billy came across such a problem, where there were given three natural numbers A, B and C from the range [1, N], and it was asked to check whether the equation AB = C is correct. Recently Billy studied the concept of a digital root of a number. We should remind you that a digital root d(x) of the number x is the sum s(x) of all the digits of this number, if $s(x) \le 9$, otherwise it is d(s(x)). For example, a digital root of the number 6543 is calculated as follows: d(6543) = d(6+5+4+3) = d(18) = 9. Billy has counted that the digital root of a product of numbers is equal to the digital root of the product of the factors' digital roots, i.e. d(xy) = d(d(x)d(y)). And the following solution to the problem came to his mind: to calculate the digital roots and check if this condition is met. However, Billy has doubts that this condition is sufficient. That's why he asks you to find out the amount of test examples for the given problem such that the algorithm proposed by Billy makes mistakes.

The first line contains the only number N ($1 \le N \le 10^6$).

Output

Output one number — the amount of required A, B and C from the range $\lceil 1, N \rceil$.

Examples

input	Сору
4	
output	Сору
2	
input	Сору
5	
output	Сору
6	

Note

For the first sample the required triples are (3, 4, 3) and (4, 3, 3).

→ Attention

The package for this problem was not updated by the problem writer or Codeforces administration after we've upgraded the judging servers. To adjust the time limit constraint, a solution execution time will be multiplied by 2. For example, if your solution works for 400 ms on judging servers, then the value 800 ms will be displayed and used to determine the verdict.

Codeforces Beta Round 10

Finished

Practice



→ Virtual participation

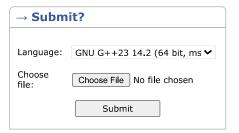
Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

Start virtual contest

→ Clone Contest to Mashup

You can clone this contest to a mashup.

Clone Contest



→ Last submissions		
Submission	Time	Verdict
325264940	Jun/20/2025 13:45	Accepted



Codeforces (c) Copyright 2010-2025 Mike Mirzayanov
The only programming contests Web 2.0 platform
Server time: Jun/20/2025 17:46:12^{UTC+7} (k1).
Desktop version, switch to mobile version.
Privacy Policy | Terms and Conditions

Supported by



