

Project Euler #34: Digit factorials

Problem Statement

This problem is a programming version of [Problem 34](#) from [projecteuler.net](#)

19 is a curious number, as $1! + 9! = 1 + 362880 = 362881$ which is divisible by 19.

Find the sum of all numbers below N which divide the sum of the factorial of their digits.

Note: as $1!, 2!, \dots, 9!$ are not sums they are not included.

Input Format

Input contains an integer N

Output Format

Print the answer corresponding to the test case.

Constraints

$$10 \leq N \leq 10^5$$

Sample Input

20

Sample Output

19