According to Dr. Rich, a *quodigious* number is a positive decimal number whose digits are each greater than 1, and which is evenly divisible by both the sum and product of its digits. For example, 735 is a quodigious number since its digits 7, 3 and 5 are each greater than 1, and 735 is evenly divisible (with zero remainder) by $7 \cdot 3 \cdot 5 = 105$ and $7 + 3 + 5 = 15$. In this program, we will find and print quodigious numbers.

Input Format

The input consists of one or more positive integers, each representing a number of decimal digits $n < 10$.

Output Format

For each number n in the input, output all n-digit quodigious numbers on successive lines, followed by an empty line.

Input Sample

    1 2 3 4

Output Sample

    2
    3
    4
    5
    6
    7
    8
    9

    24
    36

    224
    432
    624
    735

    2232
    3276
    4224
    6624