

Project Euler #119: Digit power sum

This problem is a programming version of [Problem 119](#) from [projecteuler.net](#)

We shall call a positive integer "interesting" if it contains at least two digits when written in base B and is equal to the sum of its digits raised to some power.

For example, if $B = 10$, numbers $512 = (5 + 1 + 2)^3$ and $614656 = 28^4$ are "interesting".

For a given base B , find all "interesting" numbers below 10^{100} .

Input Format

The input contains one integer B .

Constraints

$2 \leq B \leq 1000$

Output Format

Print one line containing all the "interesting" numbers for base B in ascending order. The numbers should be printed in decimal numeral system.

Sample Input

10

Sample Output

81 512 2401 4913 5832 17576 19683 234256 390625 614656 1679616 17210368 34012224 52521875 60466176 205962976
612220032 8303765625 10460353203 24794911296 ...

Explanation

Only the first twenty numbers are shown in the "Sample output", the actual output contains 174 numbers.