Cube of Sum

Problem ID: a04p08cubeofsum

Write a program that, given a maximum number M from the user, finds all integers n, such that $0 \leq n \leq M$, where n equals the cube of the sum of its digits.

The smallest three numbers which satisfy this property are 0, 1 and 512 since $0^3 = 0$, $1^3 = 1$ and $(5 + 1 + 2)^3 = 8^3 = 512$.

Input

Input consists of one line containing one integer M, where $0 \leq M \leq 100\,000$.

Output

Output each integer that satisfies the condition on its own line. You should output the integers in ascending order.

Sample Input 1	Sample Output 1
1	0 1

Sample Input 2	Sample Output 2
1000	0 1 512

Sample Input 3	Sample Output 3
10000	0 1 512 4913 5832