

# Project Euler #62: Cubic permutations



This problem is a programming version of [Problem 62](#) from [projecteuler.net](#)

The cube, 41063625 ( $345^3$ ), can be permuted to produce two other cubes: 56623104 ( $384^3$ ) and 66430125 ( $405^3$ ).

In fact, 41063625 is the smallest cube which has exactly three permutations of its digits which are also cube.

You are given  $N$ , find the smallest cube for which exactly  $K$  permutations of its digits are cube of some number which is ( $< N$ ). If there are multiple sets, print the minimal element of each in sorted order.

### Input Format

Input contains two space separated integers  $N$  and  $K$ .

### Output Format

Print the answer corresponding to the test case. If there are more than one number, print them on separate lines.

### Constraints

$$1000 \leq N \leq 10^6$$

$$3 \leq K \leq 49$$

### Sample Input

1000 3

### Sample Output

41063625