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
$1000 \le N \le 10^6$
$3 \le K \le 49$

Sample Input

```
1000 3
```

Sample Output

```
41063625
```