

A. Beautiful Year

time limit per test: 2 seconds

memory limit per test: 256 megabytes

input: standard input

output: standard output

It seems like the year of 2013 came only yesterday. Do you know a curious fact? The year of 2013 is the first year after the old 1987 with only distinct digits.

Now you are suggested to solve the following problem: given a year number, find the minimum year number which is strictly larger than the given one and has only distinct digits.

Input

The single line contains integer y ($1000 \leq y \leq 9000$) — the year number.

Output

Print a single integer — the minimum year number that is strictly larger than y and all its digits are distinct. It is guaranteed that the answer exists.

Examples

input
1987
output
2013

input
2013
output
2014