

## Problem D. Beautiful Year

**Time Limit** 2000 ms

**Mem Limit** 262144 kB

**Input File** stdin

**Output File** stdout

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 it's digits are distinct. It is guaranteed that the answer exists.

### Examples

Input	Output
1987	2013

  

Input	Output
2013	2014