

[HOME](#) [TOP](#) [CATALOG](#) [CONTESTS](#) [GYM](#) [PROBLEMSET](#) [GROUPS](#) [RATING](#) [EDU](#) [API](#) [CALENDAR](#) [HELP](#)
[PROBLEMS](#) [SUBMIT](#) [STATUS](#) [STANDINGS](#) [CUSTOM TEST](#)

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	Copy
1987	
output	Copy
2013	

input	Copy
2013	
output	Copy
2014	

→ Attention

The package for this problem was not updated by the problem writer or Codeforces administration after we've upgraded the judging servers. To adjust the time limit constraint, a solution execution time will be multiplied by 2. For example, if your solution works for 400 ms on judging servers, then the value 800 ms will be displayed and used to determine the verdict.

Codeforces Round #166 (Div. 2)

[Finished](#)
[Practice](#)


→ Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

[Start virtual contest](#)

→ Clone Contest to Mashup

You can clone this contest to a mashup.

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→ Submit?

Language: Python 3.8.10

Almost always, if you send a solution on PyPy, it works much faster

Choose file: [Choose File](#) No file chosen

[Submit](#)




→ Last submissions

Submission	Time	Verdict
168362882	Aug/15/2022 12:58	Wrong answer on test 3
168362569	Aug/15/2022 12:55	Compilation error

→ Problem tags

[brute force](#) [*800](#)

[→ Contest materials](#)

- Announcement 
- Tutorial #1 (ru) 
- editroal (en) 

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The only programming contests Web 2.0 platform
Server time: Sep/14/2022 22:25:49^{UTC+4.5} (k3).
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