

## B. Lucky Numbers (easy)

time limit per test: 2 seconds

memory limit per test: 256 megabytes

Petya loves lucky numbers. Everybody knows that positive integers are lucky if their decimal representation doesn't contain digits other than 4 and 7. For example, numbers 47, 744, 4 are lucky and 5, 17, 467 are not.

Lucky number is super lucky if it's decimal representation contains equal amount of digits 4 and 7. For example, numbers 47, 7744, 474477 are super lucky and 4, 744, 467 are not.

One day Petya came across a positive integer  $n$ . Help him to find the least super lucky number which is not less than  $n$ .

### Input

The only line contains a positive integer  $n$  ( $1 \leq n \leq 10^9$ ). This number doesn't have leading zeroes.

### Output

Output the least super lucky number that is more than or equal to  $n$ .

Please, do not use the %lld specificator to read or write 64-bit integers in C++. It is preferred to use the cin, cout streams or the %I64d specificator.

### Examples

|        |      |
|--------|------|
| input  | Copy |
| 4500   |      |
| output | Copy |
| 4747   |      |

|        |      |
|--------|------|
| input  | Copy |
| 47     |      |
| output | Copy |
| 47     |      |

#### → 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 Beta Round 77 (Div. 2 Only)

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.

Clone Contest

#### → Submit?

Language: GNU G++20 13.2 (64 bit, win

Choose file: Choose File No file chosen

Submit

#### → Last submissions

| Submission                | Time              | Verdict                |
|---------------------------|-------------------|------------------------|
| <a href="#">230611824</a> | Oct/31/2023 02:58 | Accepted               |
| <a href="#">230611782</a> | Oct/31/2023 02:58 | Accepted               |
| <a href="#">230611698</a> | Oct/31/2023 02:55 | Wrong answer on test 1 |

#### → Problem tags

binary search bitmasks brute force

\*1300

No tag edit access

#### → Contest materials

- Announcement