OCC '19 S2 - Rimuru's Number Game

Time limit: 1.0s **Memory limit:** 64M

It's **Pookmeister**'s birthday, and **Rimuru** wants to give him a gift. Knowing that he loves the numbers 2 and 3, **Rimuru** wants to know how many different numbers less than or equal to N that only consist of digits that are either 2 or 3.

Subtasks

1. (20 points) $N \leq 10^5$
2. (80 points) No additional constraints.

Input Specification

A single integer N ($3 \leq N \leq 10^{18}$).

Output Specification

The answer to the problem, on a single line.

Sample Input 1

```
13
```

Sample Output 1

```
2
```

Explanation for Sample 1

The only two numbers are 2 and 3.

Sample Input 2

```
40
```

Sample Output 2

```
6
```

Explanation for Sample 2

The only valid numbers are 2, 3, 22, 23, 32 and 33.