

B. Undoubtedly Lucky Numbers

time limit per test: 2 seconds

memory limit per test: 256 megabytes

input: standard input

output: standard output

Polycarpus loves lucky numbers. Everybody knows that lucky numbers are positive integers, whose decimal representation (without leading zeroes) contain only the lucky digits x and y . For example, if $x = 4$, and $y = 7$, then numbers 47, 744, 4 are lucky.

Let's call a positive integer a *undoubtedly lucky*, if there are such digits x and y ($0 \leq x, y \leq 9$), that the decimal representation of number a (without leading zeroes) contains only digits x and y .

Polycarpus has integer n . He wants to know how many positive integers that do not exceed n , are undoubtedly lucky. Help him, count this number.

Input

The first line contains a single integer n ($1 \leq n \leq 10^9$) — Polycarpus's number.

Output

Print a single integer that says, how many positive integers that do not exceed n are undoubtedly lucky.

Examples

input
10
output
10

input
123
output
113

Note

In the first test sample all numbers that do not exceed 10 are undoubtedly lucky.

In the second sample numbers 102, 103, 104, 105, 106, 107, 108, 109, 120, 123 are not undoubtedly lucky.