Problem K
Stepping Numbers
Time Limit: 1 Second

A positive integer is called a stepping number if, in its decimal representation without leading zeros, the absolute difference between every pair of adjacent digits is exactly 1. For example, both an increasing step (a 2 following a 1) and a decreasing step (a 1 following a 2) are allowed. A single-digit number (from 1 to 9) has no adjacent pair to compare, so it is also considered a stepping number.

For example, 10, 21, 123432, and 56565 are stepping numbers. On the other hand, 11 (difference 0), 13 (difference 2), and 100 (its last two digits 0 and 0 have difference 0) are not stepping numbers.

Given an integer n, you must find the n-th smallest stepping number.

Input
Your program is to read from standard input. The input consists of a single line containing one integer n ($1 \leq n \leq 10^5$).

Output
Your program is to write to standard output. Print the n-th smallest stepping number on a single line.

It is guaranteed that the answer is less than 10^{15}, so it fits in a signed 64-bit integer.

The following shows the sample input and output for five test cases.

Sample Input 1	Output for the Sample Input 1
1	1

Sample Input 2	Output for the Sample Input 2
10	10

Sample Input 3	Output for the Sample Input 3
12	21

Sample Input 4	Output for the Sample Input 4
100	6765

Sample Input 5	Output for the Sample Input 5
100000	321210121012343