Problem E
Bringing Order to Disorder

Input: Standard Input
Time Limit: 1 second

A sequence of digits usually represents a number, but we may define an alternative interpretation. In this problem we define a new interpretation with the order relation $\prec$ among the digit sequences of the same length defined below.

Let s be a sequence of n digits, $d_1 d_2 \cdots d_n$, where each d_i $(1 \leq i \leq n)$ is one of `0`, `1`, ..., and `9`. Let $\mathrm{sum}(s)$, $\mathrm{prod}(s)$, and $\mathrm{int}(s)$ be as follows:

$$
\begin{aligned}
\mathrm{sum}(s) &= d_1 + d_2 + \cdots + d_n \\
\mathrm{prod}(s) &= (d_1 + 1) \times (d_2 + 1) \times \cdots \times (d_n + 1) \\
\mathrm{int}(s) &= d_1 \times 10^{n-1} + d_2 \times 10^{n-2} + \cdots + d_n \times 10^0
\end{aligned}
$$

$\mathrm{int}(s)$ is the integer the digit sequence s represents with normal decimal interpretation.

Let s_1 and s_2 be sequences of the same number of digits. Then $s_1 \prec s_2$ (s_1 is less than s_2) is satisfied if and only if one of the following conditions is satisfied.

1. $\mathrm{sum}(s_1) < \mathrm{sum}(s_2)$
2. $\mathrm{sum}(s_1) = \mathrm{sum}(s_2)$ and $\mathrm{prod}(s_1) < \mathrm{prod}(s_2)$
3. $\mathrm{sum}(s_1) = \mathrm{sum}(s_2)$, $\mathrm{prod}(s_1) = \mathrm{prod}(s_2)$, and $\mathrm{int}(s_1) < \mathrm{int}(s_2)$

For 2-digit sequences, for instance, the following relations are satisfied.

$$\texttt{00} \prec \texttt{01} \prec \texttt{10} \prec \texttt{02} \prec \texttt{20} \prec \texttt{11} \prec \texttt{03} \prec \texttt{30} \prec \texttt{12} \prec \texttt{21} \prec \cdots \prec \texttt{89} \prec \texttt{98} \prec \texttt{99}$$

Your task is, given an n-digit sequence s, to count up the number of n-digit sequences that are less than s in the order $\prec$ defined above.

Input

The input consists of a single test case in a line.

$$d_1 d_2 \cdots d_n$$

n is a positive integer at most 14. Each of $d_1, d_2, \ldots,$ and d_n is a digit.

Output

Print the number of the n-digit sequences less than $d_1 d_2 \cdots d_n$ in the order defined above.

Sample Input 1	Sample Output 1
20	4

Sample Input 2	Sample Output 2
020	5

Sample Input 3	Sample Output 3
118	245

Sample Input 4	Sample Output 4
11111111111111	40073759

Sample Input 5	Sample Output 5
99777222222211	23733362467675