Problem I. Inversions in Lexicographical Order

Input file:	*standard input*
Output file:	*standard output*
Time limit:	2 seconds
Memory limit:	512 mebibytes

An *inversion* in permutation $p = \langle p_1, p_2, \ldots, p_n \rangle$ is a pair of integers (i, j) such that $i < j$ and $p_i > p_j$.

Consider a lexicographical order on positive integers. Under this ordering, integers are compared lexicographically as strings of digits. For example, 628 comes before 7, 239 comes before 271, and 42 comes before 427.

You are given a single positive integer n. Let's sort all integers from 1 to n, inclusive, in lexicographical order. We'll get a permutation p of length n, where p_1 is the lexicographically smallest integer between 1 and n (actually, $p_1 = 1$ for any n), p_2 is the second smallest one, and so on.

How many inversions does p contain?

Input

The only line of the input contains a single positive integer n without leading zeroes.

The value of n will be between 1 and $10^{250\,000} - 1$, inclusive. That is, n will consist of no more than 250 000 decimal digits.

Output

Output a single integer without leading zeroes — the number of inversions in p.

Examples

standard input	standard output
11	16
427	26576

Note

Indeed, in the first example test case, $p = \langle 1, 10, 11, 2, 3, 4, 5, 6, 7, 8, 9 \rangle$ contains 16 inversions.