

Problem F

Numberland

Time Limit: 1 second

Alice is in Numberland. She misses her family and wants to go home. However, only when she wins the following numeric game can she return to her family.

Initially, Alice has a number $S = 1$. At each move, Alice can perform either of the two transformations:

- Increase the value of S by 1.
- Perform a permutation of all digits in S to get the new value of S . The first digit in the new value must be non-zero, and the length of S will not be changed after this transformation.



Alice should find the minimum number of moves to transform $S=1$ into N .

Input

The first line contains a positive integer number T , the number of test cases ($T \leq 10^4$).

Each of the following T lines contains a positive integer N for each test case ($N \leq 10^9$).

Output

For each test case, display in a line the minimum number of moves to get the value N from $S = 1$.

Sample Input

Sample Output

1 21	12
---------	----

Explanation: from $S = 1$, we increase the value of S for 11 times to get $S = 12$. Then we swap the digits of $S = 12$ to get $S = 21$.