Rikka with Subsequence

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

As we all know, Rikka is not good at math. Yuta, her boyfriend, is worried about it. Therefore, he sets an interesting math problem For Rikka to practice.

Given a non-negative integer x, Rikka is required to find three non-negative integers a, b, c that satisfy the following three conditions:

1. $a + b = x$;

2. str(c) is a subsequence of str(a);

3. str(c) is a subsequence of str(b).

str(d) represents the decimal string representation of integer d. For example, str(0) ="0", str(103) ="103".

String $s = s_1 \ldots s_n$ is a subsequence of string $t = t_1 \ldots t_m$ if and only if there exists an index sequence $1 \le i_1 < i_2 < \cdots < i_n \le m$ satisfying $\forall j \in [1, n], s_j = t_{i_j}$.

To avoid the case of no solution, Yuta assumes there is a special choice "$-$" for c where str($-$) is equal to the empty string. Under this assumption, $a = 0, b = 9, c = -$ becomes a valid solution of $x = 9$.

Finding a valid solution is an easy task even for Rikka. Therefore, Rikka wants to increase the difficulty: Rikka wants you to find a valid solution (a, b, c) so that the length of str(c) is as large as possible.

Input

The first line contains a single integer T $(1 \le T \le 10^4)$, representing the number of test cases.

For each test case, the first line contains a single integer x $(|\text{str}(x)| \le 5000)$.

The input guarantees that $\sum |\text{str}(x)| \le 10^5$.

Output

For each test case, output three lines, each with a single integer, representing a, b, c respectively.

If there are multiple optimal solutions, you need only to output any of them.

Example

standard input	standard output
3	1145141919810
2290283839620	1145141919810
1	1145141919810
9999999	0
	1
	-
	4545454
	5454545
	454545