

## Problem B. Sum of Round Numbers

**Time limit** 1000 ms

**Mem limit** 262144 kB

A positive (strictly greater than zero) integer is called *round* if it is of the form  $d00 \dots 0$ . In other words, a positive integer is round if all its digits except the leftmost (most significant) are equal to zero. In particular, all numbers from 1 to 9 (inclusive) are round.

For example, the following numbers are round: 4000, 1, 9, 800, 90. The following numbers are **not** round: 110, 707, 222, 1001.

You are given a positive integer  $n$  ( $1 \leq n \leq 10^4$ ). Represent the number  $n$  as a sum of round numbers using the minimum number of summands (addends). In other words, you need to represent the given number  $n$  as a sum of the least number of terms, each of which is a round number.

### Input

The first line contains an integer  $t$  ( $1 \leq t \leq 10^4$ ) — the number of test cases in the input. Then  $t$  test cases follow.

Each test case is a line containing an integer  $n$  ( $1 \leq n \leq 10^4$ ).

### Output

Print  $t$  answers to the test cases. Each answer must begin with an integer  $k$  — the minimum number of summands. Next,  $k$  terms must follow, each of which is a round number, and their sum is  $n$ . The terms can be printed in any order. If there are several answers, print any of them.

### Examples

Input	Output
5 5009 7 9876 10000 10	2 5000 9 1 7 4 800 70 6 9000 1 10000 1 10