Problem I
Missing Number
Time limit: 2 seconds

Kirby has written down all the integers from a to b in order. He wrote them down as one big string, with no spaces between them and no leading zeroes, and he didn't tell you the values of a and b!

Because Kirby was hungry, he ate one of the numbers. Can you figure out what number he ate?

Input

The first line contains a single integer t ($1 \leq t \leq 10^5$), which is the number of test cases that follow.

Each of the next t lines contains a string of digits of length at least one and at most 488888. This string is what Kirby wrote. Note that $1 \leq a < b \leq 99999$. It is guaranteed that this string can be obtained by the process given above.

It is guaranteed that the sum of the lengths of all the strings does not exceed 10^6.

Output

Output $2t$ lines, two for each test case.

On the first line, output a single integer, which is the number of numbers that Kirby could have possibly eaten.

On the second line, output the numbers that Kirby could have eaten, in ascending order, separated by at least one space.

Sample Input 1	Sample Output 1
1 891112	1 10

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