Problem I. Sum of Palindromes

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

For a 7-years-old you, a day would not be complete without a fight with your little sister. Today's fight is about palindromes: she has recently become very passionate about the topic, while you think this is an exceptionally stupid choice of topic to be passionate about. Obviously, you couldn't have missed a chance to express this opinion out loud.

"Palindromes are awesome, you ignorant", she shouts, "for example you can add palindromes and the result will always remain a palindrome! Like $242 + 515 = 767$! Or $111 + 222 + 333 = 666$. See, stupid?"

There it is! You could easily end this pointless conversation by showing her some palindromes which sum to a non-palindrome, but it would be too simple, too easy... You don't want to win with her, you want to *humiliate* her. So instead you ask her to produce a number, *any* number, and you'd show her that it is actually a sum of just a few palindromes. Let's say, no more than 25 palindromes: you would absolutely hate it if you needed to add up so many palindromes that she lost interest before you finished the summation.

Clearly, you've underestimated your enemy. You sit by your desk and you look at your number... $100\,000$ digits long...

Input

The first line of input contains the number of test cases z $(1 \le z \le 20\,000)$. The descriptions of the test cases follow.

A test case consists of a single line, containing a positive integer with at most $100\,000$ decimal digits.

The total number of digits in all numbers does not exceed $3\,000\,000$.

Output

For each test case, first output a line containing the number of palindromes k, which should be between 1 and 25 inclusive. Next, k lines should follow, each containing a positive integer being also a palindrome. Leading zeroes are not allowed (and thus, for example, 3630 **is not** a palindrome). The sum of all the numbers should equal the input integer.

Example

standard input	standard output
2	2
378	55
2020	323
	3
	2002
	11
	7