Problem 198: Old-Timer Texting

Difficulty: Medium

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Problem Background

You're visiting your grandparents, but are starting to get bored. You pull out your phone to text your friends to see what they're up to, but your grandfather sees what you're doing. "You kids these days!" he complains. "You don't know how good you have it with your touch screens and smart phones. Back in my day, when we wanted to text someone, we had to use a number pad to type! We had to hit each button several times until it showed the letter we wanted. Texting took forever!" Fortunately, your grandmother shushes him before he starts complaining about other ancient technologies.

Once you get home, however, you start to wonder... just how difficult *was* texting back in the olden days?

Problem Description

As noted above, when SMS messaging - or texting - was first introduced, full keyboards were extremely uncommon on mobile devices. Most phones simply had a keypad for dialing phone numbers, and a few other buttons for navigating menus and actually answering the phone. To support texting, each number button was associated with a set of letters.

Pressing a number button once would type the first letter in that button's set; quickly pressing it twice would type the second number, and so on. The typed letter would be locked into place after a short delay, or if another button was pressed. For example, given the standard US keypad layout shown at right, typing "hello world" would require pressing:

1	2 ABC	3 DEF
4 GHI	5 JKL	6 MNO
7 PQRS	8 TUV	9 WXYZ
*	0 [space]	#

44-33-555-555-666-0-9-666-777-555-3

You mention this to your friends, and they find the whole process both inefficient and hilarious. You decide to write a program to translate text into keypad texting commands just to see how bad it really was. If nothing else, it might get your grandfather to stop complaining so much.

Sample Input

The first line of your program's input, **received from the standard input channel**, will contain a positive integer representing the number of test cases. Each test case will include a single line of text comprised of lowercase letters and spaces, up to 160 characters long.

```
3
hello world
lockheed martin
code quest
```

Sample Output

For each test case, your program must print a single line indicating the buttons that must be pressed on the keypad displayed above to produce the given text string. For each character in the original message, show the number that must be pressed, repeated to indicate the number of times that button must be pressed to produce that character. Separate the representation for each character with a dash (-).

```
44-33-555-555-666-0-9-666-777-555-3
555-666-222-55-44-33-33-3-0-6-2-777-8-444-66
222-666-3-33-0-77-88-33-7777-8
```