

A. Way Too Long Words

time limit per test: 2 seconds

memory limit per test: 256 megabytes

input: standard input

output: standard output

Sometimes some words like "localization" or "internationalization" are so long that writing them many times in one text is quite tiresome.

Let's consider a word *too long*, if its length is **strictly more** than 10 characters. All too long words should be replaced with a special abbreviation.

This abbreviation is made like this: we write down the first and the last letter of a word and between them we write the number of letters between the first and the last letters. That number is in decimal system and doesn't contain any leading zeroes.

Thus, "localization" will be spelt as "l10n", and "internationalization" will be spelt as "i18n".

You are suggested to automatize the process of changing the words with abbreviations. At that all too long words should be replaced by the abbreviation and the words that are not too long should not undergo any changes.

Input

The first line contains an integer n ($1 \leq n \leq 100$). Each of the following n lines contains one word. All the words consist of lowercase Latin letters and possess the lengths of from 1 to 100 characters.

Output

Print n lines. The i -th line should contain the result of replacing of the i -th word from the input data.

Examples

input
4
word
localization
internationalization
pneumonoultramicroscopicsilicovolcanoconiosis
output
word
l10n
i18n
p43s

→ Attention

Package for this problem was not updated by the problem writer or Codeforces administration after we've upgraded the judging servers. To adjust the time limit constraint, solution execution time will be multiplied by 2. For example, if your solution works for 400 ms on judging servers, then value 800 ms will be displayed and used to determine the verdict.

Codeforces Beta Round #65 (Div. 2)

Finished

→ Virtual participation

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Start virtual contest

→ Problem tags

strings

No tag edit access

→ Contest materials

- Announcement 
- Tutorial 