

Encoding

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Problem Description

Given a string containing only 'A' - 'Z', we could encode it using the following method:

- Each sub-string containing k same characters should be encoded to "kX" where "X" is the only character in this sub-string.
- If the length of the sub-string is 1, '1' should be ignored.

Input

The first line contains an integer N (1 <= N <= 100) which indicates the number of test cases. The next N lines contain N strings. Each string consists of only 'A' - 'Z' and the length is less than 10000.

Output

For each test case, output the encoded string in a line.

Sample Input

```
2
ABC
ABBCCC
```

Sample Output

```
ABC
A2B3C
```

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