The Cheeky-Cheeky is a new song. They dance it in Mula, and also in Hong Kong. All the freekies dance it, and the geek all love it. And the Cheeky-Cheeky is danced like this:

1. The breikin-brokin.

2. The meneito.

3. The roboqueitor.

4. The maiquel-guolkin.

In this problem you have to learn to dance the Cheeky-Cheeky. This dancing consists of 4 basic **steps** (as listed above) that are arranged into a particular **sequence**. Then this sequence can be repeated an arbitrary number of times.

For example, if the sequence is '123', then the Cheeky-Cheeky is danced like this: '12312312312312...'. But if the sequence is '123124', then the steps of the dancing are '123124123124123...'.

You are given some of the steps of a particular dancing. Those steps will contain between 2 (inclusive) and 3 (not inclusive) times the basic sequence. You have to continue the dancing.

For example, if the basic sequence is '123', we can have the following possibilities:

Input	Output
123123	12312312...
1231231	23123123...
12312312	31231231...

Input

The first line of the input contains an integer indicating the number of test cases.

Each case contains some of the first steps of a dancing. It is a single line with a list of digits (1, 2, 3 or 4) with no spaces between them. It will not have more than 2000 steps. Remember that the case contains the basic sequence twice, and possibly has some more steps (but not thrice).

Output

For each test case, the output should contain the 8 following steps of the dancing, followed by three dots '...'.

Sample Input

```
6
123123
1231231
12312312
123124123124
12312412312412
12312412312412312
```

Sample Output

```
12312312...
23123123...
31231231...
12312412...
31241231...
41231241...
```