Problem 4-Roman Numerals

We all learned Roman numerals when we were kids. I=1, V=5, X=10, L=50, C=100, D=500, M= 1000. When a larger symbol precedes a smaller the values are added. But when a smaller symbol precedes a larger, the smaller is subtracted from the larger. However, a smaller symbol is only allowed to precede a larger if the smaller is a power of ten, and the larger is either five or ten times larger than the smaller. (For example, 49 is XLIX, and not IL. Or 95 is XCV, not VC.) Symbols representing powers of 10 (I,X,C,M) cannot appear more than three times in a row. Other symbols (V,L,D) can't appear more than once in a row.

Now, we will add to this the notion that any symbol *except* I can be followed by one or more apostrophes, each apostrophe multiplies the symbol by 1000. So, 4000 can be represented as MV'. 6000007 is V''M'VII. Given a regular Arabic numeral (which might be *very* large), you need to print the equivalent Roman numeral.

INPUT SPECIFICATION. Each input case is an unsigned positive decimal integer followed by ***<EOLN>***. These input cases can be very large. A zero followed by ***<EOLN>*** will follow the last input case.

OUTPUT SPECIFICATION. The output cases should appear in the same order as their corresponding input cases. Each output case should be the following: "Case *c*: *r*" where *c* is the case number and *r* is the Roman numeral. Two ***<EOLN>*** characters should follow each output case.

SAMPLE INPUT

```
25<EOLN>
1968<EOLN>
4194304<EOLN>
12345678901234567890123456789O<EOLN>
0<EOLN>
<EOF>
```

SAMPLE OUTPUT

```
Case·1:·XXV<EOLN>
<EOLN>
Case·2:·MCMLXVIII<EOLN>
<EOLN>
Case·3:·M'V''C'X'C'MV'CCCIV<EOLN>
<EOLN>
Case·4:·C'''''''''X'''''''''X'''''''''M'''''''M'''''''M'''''''C'''''''D''
''''''L'''''''V'''''''M'''''''D'''''''C'''''''C'''''''L'''''''X'''''''X''''
'''X'''''''M''''''X'''''''X''''''M'''''M'''''C'''''C'''''C'''''X'''''L'''''V'
''''D''''C''''L''''X''''X''''V''''M'''M'''M'''C'''M'''M''C''C''X''X''M'V''
D'L'X'V'MMDCCCXC<EOLN>
<EOLN>
<EOF>
```