

You will be given a decimal number. You will have to convert it to its ternary (Base 3) equivalent.

Input

The input file contains at most 100 lines of inputs. Each line contains a non-negative decimal integer N ($N < 1000000001$). Input is terminated by a line containing a negative value. This line should not be processed.

Output

For each line of input produce one line of output. This line contains the ternary equivalent of decimal value N .

Sample Input

```
10
100
1000
-1
```

Sample Output

```
101
10201
1101001
```