Problem B: Three powers

Consider the set of all non-negative integer powers of 3.

$$S = \{ 1, 3, 9, 27, 81, \ldots \}$$

Consider the sequence of all subsets of S ordered by the value of the sum of their elements. The question is simple: find the set at the n-th position in the sequence and print it in increasing order of its elements.

Each line of input contains a number n, which is a positive integer with no more than 19 digits. The last line of input contains 0 and it should not be processed.

For each line of input, output a single line displaying the n-th set as described above, in the format used in the sample output.

Sample input

```
1
7
14
783
1125900981634049
0
```

Output for sample input

```
{ }
{ 3, 9 }
{ 1, 9, 27 }
{ 3, 9, 27, 6561, 19683 }
{ 59049, 3486784401, 205891132094649, 7178979876918525887702 49 }
```

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