3694 - Rubik Packages

Description

In the warehouse of some toy factory, there are *N* Rubik's Cubes with a shape of a cube with side 1, which should be transported to the market. For this task, it is required to store all Rubik's Cubes inside cubic boxes of equal size. Nevertheless, no matter the size of the boxes, it must be guaranteed that all boxes are **completely** filled with Rubik's Cubes. Can you determine the total number of possible ways to package all the Rubik's Cubes using boxes of equal size? All cubes are indistinguishable, so two ways are different only if the size of the boxes is different.

Input specification

Input consists of several test cases (no more than 101), one per line. Each case is composed by a line with a integer number **N (1 $\leq$ *N* $\leq$ 10^8)**. The last test case is followed by a line containing a 0 (zero), which should not be processed.

Output specification

For each case, you must output a line with an integer number representing the total number of possible ways to package all the Rubik's Cubes using boxes of equal size.

Sample input

```
8
0
```

Sample output

```
2
```

Hint(s)