Problem B
Square Coins
Input: coins.txt

People in Silverland use square coins. Not only they have square shapes but also their values are square numbers. Coins with values of all square numbers up to 289 ($= 17^2$), i.e., 1-credit coins, 4-credit coins, 9-credit coins, ..., and 289-credit coins, are available in Silverland.

There are four combinations of coins to pay ten credits:

ten 1-credit coins,
one 4-credit coin and six 1-credit coins,
two 4-credit coins and two 1-credit coins, and
one 9-credit coin and one 1-credit coin.

Your mission is to count the number of ways to pay a given amount using coins of Silverland.

Input

The input consists of lines each containing an integer meaning an amount to be paid, followed by a line containing a zero. You may assume that all the amounts are positive and less than 300.

Output

For each of the given amount, one line containing a single integer representing the number of combinations of coins should be output. No other characters should appear in the output.

Sample Input

```
2
10
30
0
```

Output for the Sample Input

```
1
4
27
```