

11238 Innumerosus bowling games

As you all know Homer Jay Simpson is an enthusiastic bowling player. The last times when he played with his friends Carl and Lenny, Homer always scored the same number of points, but the games differed in at least one frame. Carl wonders how often Homer can reach the same number of points without playing any two identical games.

For those of you who never enjoyed the great game of bowling we will explain the rules of bowling in detail:

A bowling game consists of ten frames. Each frame starts with ten pins standing that you attempt to knock down by rolling a bowling ball towards the pins. A frame ends after two attempts or if there is no pin left standing. For each frame you get the number of pins you knocked down as points. However there are some bonus points if you manage to knock down all the pins.

If you knock down all ten pins in the first attempt it is called a “strike” and you get as a bonus the number of pins knocked down in the next two attempts (which belong to the next frame(s)). If you manage to knock down all the remaining pins in the second attempt it is called a “spare” and you get the number of pins knocked down in the next attempt as a bonus (again, this attempt belongs to the next frame). In the last frame there are special rules for the bonus points: If you have got a spare/strike you have one/two additional bonus attempt(s) which count only as bonus points. If you have got two bonus attempts and have knocked down all pins with your first attempt, you start again with 10 pins for your second bonus attempt. As you may notice, it is possible to score a maximum of 30 points in each frame, thereby scoring 300 points in total.

Your task is to help Carl to calculate the number of different bowling games which result in a specific score.

Input

The input contains several test cases. Each test case consists of one line containing one integer s ($0 \leq s \leq 300$), the score for which you have to calculate the number of different bowling games.

The last test case is followed by a line containing ‘-1’.

Output

For each test case, print the number of different bowling games resulting in the given score in one line. You may assume that this number fits into a signed 64-bit integer (in C/C++ you can use the data type “long long”, in JAVA the data type “long”).

Sample Input

```
0
1
2
120
100
-1
```

Sample Output

```
1
20
```

210

4415377510495980

50613244155051856