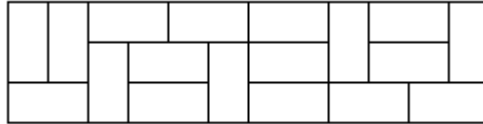


In how many ways can you tile a $3 \times n$ rectangle with 2×1 dominoes?

Here is a sample tiling of a 3×12 rectangle.



Input

Input consists of several test cases followed by a line containing '-1'. Each test case is a line containing an integer $0 \leq n \leq 30$.

Output

For each test case, output one integer number giving the number of possible tilings.

Sample Input

```
2
8
12
-1
```

Sample Output

```
3
153
2131
```

