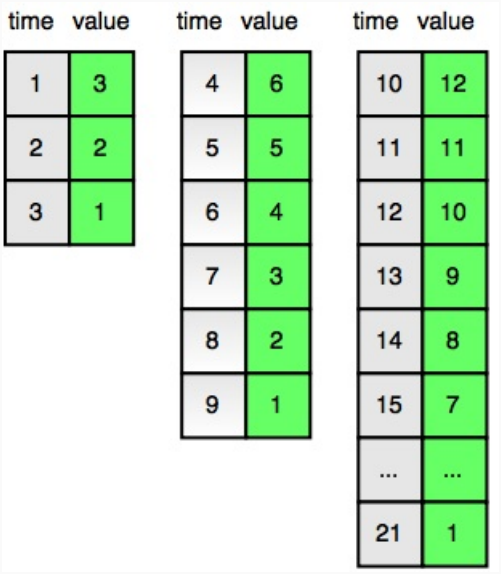
Bob has a *strange counter*. At the first second, it displays the number 3. Each second, the number displayed by the counter decrements by 1 until it reaches 1.

The counter counts down in cycles. In next second, the timer resets to $2 \times$ **the initial number for the prior cycle** and continues counting down. The diagram below shows the counter values for each time t in the first three cycles:



time	value
1	3
2	2
3	1

time	value
4	6
5	5
6	4
7	3
8	2
9	1

time	value
10	12
11	11
12	10
13	9
14	8
15	7
...	...
21	1

Find and print the value displayed by the counter at time t.

Function Description

Complete the *strangeCounter* function in the editor below. It should return the integer value displayed by the counter at time t.

strangeCounter has the following parameter(s):

- *t*: an integer

Input Format

A single integer denoting the value of t.

Constraints

- $1 \leq t \leq 10^{12}$

Subtask

- $1 \leq t \leq 10^5$ for 60% of the maximum score.

Output Format

Print the value displayed by the strange counter at the given time t.

Sample Input

```
4
```

Sample Output

```
6
```

Explanation

Time $t = 4$ marks the beginning of the second cycle. It is double the number displayed at the beginning of the first cycle: $2 \times 3 = 6$. This is also shown in the diagram in the *Problem Statement* above.