

Strange Counter



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	time	value	time	value
1	3	4	6	10	12
2	2	5	5	11	11
3	1	6	4	12	10
		7	3	13	9
		8	2	14	8
		9	1	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.