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Practice > Algorithms > Implementation > Strange Counter

Strange Counter ☆

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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 $2 \times \textbf{the initial number for the prior cycle}$ and continues counting down. The diagram below shows the counter values for each time t in the first three cycles:

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

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*

Author   Shafaet
Difficulty   Easy
Max Score   30
Submitted By   22392

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```java
 1  import java.io.*;
 2  import java.math.*;
 3  import java.text.*;
 4  import java.util.*;
 5  import java.util.regex.*;
 6
 7  public class Solution {
 8
 9      /*
10       * Complete the strangeCounter function below.
11       */
12      static long strangeCounter(long t) {
13          /*
14           * Write your code here.
15           */
16
17      }
18
19      private static final Scanner scanner = new Scanner(System.in);
20
21      public static void main(String[] args) throws IOException {
22          BufferedWriter bufferedWriter = new BufferedWriter(new
    FileWriter(System.getenv("OUTPUT_PATH")));
23
24          long t = scanner.nextLong();
25          scanner.skip("(\r\n|[\n\r\u2028\u2029\u0085])*");
26
27          long result = strangeCounter(t);
28
29          bufferedWriter.write(String.valueOf(result));
30          bufferedWriter.newLine();
31
32          bufferedWriter.close();
33
34          scanner.close();
35      }
36  }
37
```

Line: 1 Col: 1

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