

Bacteria (Solved) (100 / 100)

Alice is breeding bacteria for ~~world domination~~ a school project. She starts with 1 unit of bacteria. Every unit of bacteria will division into 2 units after one second. She can also kill any number of units of bacteria at any time. In her experiment, she needs exactly κ units of bacteria.

Since Alice is benevolent, help her to find out the minimum number of units of bacteria that need to be killed.

Input Format

A number, κ , which is the number of units of bacteria the Alice needs.

Output Format

Output the minimum number of units of bacteria that need to be killed.

Sample Input

$\kappa = 6$

Sample Output

1

Explanation

She starts with 1 unit of bacteria, she lets it grow into 2 units after one second, and when she has a total of 4 units after another second, she kills one unit of bacteria, which would result in her having 3 units of bacteria. After one more second, the bacteria would grow into 6 units, which is what she wanted.

Submit All Answers

Test Cases

Case 1 (10/10 points)

Case 2 (10/10 points)

Case 3 (20/20 points)

Case 4 (20/20 points)

Case 5 (20/20 points)

Case 6 (20/20 points)

Test Case 1

$\kappa = 17$

Copy

Answer

4

Submit

Solved!