

## Subtract or Divide

You are given a positive integer  $N$ . In one operation, you can do **either** of the following 2 actions:

- If  $N > 2$ , choose to change  $N$  to  $N - 2$ .
- If  $N > 1$  and  $N$  is even, choose to change  $N$  to  $\frac{N}{2}$

Find the number of different positive integers you can form if you are allowed to perform as many operations as you want, starting with  $N$ . Note that you are allowed to perform different types of actions in different operations.

## Input Format

- The first line of input will contain a single integer  $T$ , denoting the number of test cases.
- The first and only line of each test case contains a single integer  $N$ .

## Output Format

For each test case, output on a new line the number of distinct positive integers you can form.

## Constraints

- $1 \leq T \leq 100$
- $1 \leq N \leq 10^9$

## Sample 1:

Input	Output
7	1
1	2
2	3
4	5
6	6
8	5
9	75
100	

## Explanation:

**Test Case 1 :** The only positive integer we can form is 1 itself, doing no operations.

**Test Case 2 :** We can get 1 or 2. 1 can be got by doing a divide by 2 operation, and 2 can be got with no operation.

**Test Case 3 :** We can get 1, 2 or 4.

**Test Case 5 :** We can get 1, 2, 3, 4, 6, 8 from 8. For example, we can get 3 by  $8 \rightarrow 6 \rightarrow 3$ .