Sum vs XOR

Given an integer n, find each x such that:

- $0 \leq x \leq n$
- $n + x = n \oplus x$

where $\oplus$ denotes the bitwise XOR operator. Return the number of x's satisfying the criteria.

Example
$n = 4$

There are four values that meet the criteria:

- $4 + 0 = 4 \oplus 0 = 4$
- $4 + 1 = 4 \oplus 1 = 5$
- $4 + 2 = 4 \oplus 2 = 6$
- $4 + 3 = 4 \oplus 3 = 7$

Return 4.

Function Description

Complete the sumXor function in the editor below.

sumXor has the following parameter(s):
- *int n:* an integer

Returns
- *int:* the number of values found

Input Format

A single integer, n.

Constraints

- $0 \leq n \leq 10^{15}$

Subtasks

- $0 \leq n \leq 100$ for 60% of the maximum score.

Output Format

Sample Input 0

```
5
```

Sample Output 0

```
2
```

Explanation 0

For $n = 5$, the x values 0 and 2 satisfy the conditions:

- $5 + 0 = 5, \ \ 5 \oplus 0 = 5$
- $5 + 2 = 7, \ \ 5 \oplus 2 = 7$

Sample Input 1

```
10
```

Sample Output 1

```
4
```

Explanation 1

For $n = 10$, the x values 0, 1, 4, and 5 satisfy the conditions:

- $10 + 0 = 10, \ \ 10 \oplus 0 = 10$
- $10 + 1 = 11, \ \ 10 \oplus 1 = 11$
- $10 + 4 = 14, \ \ 10 \oplus 4 = 14$
- $10 + 5 = 15, \ \ 10 \oplus 5 = 15$