

## 5533. Minimum One Bit Operations to Make Integers Zero

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contest (/contest/weekly-contest-209/)

Given an integer  $n$ , you must transform it into  $0$  using the following operations any number of times:

- Change the rightmost ( $0^{\text{th}}$ ) bit in the binary representation of  $n$ .
- Change the  $i^{\text{th}}$  bit in the binary representation of  $n$  if the  $(i-1)^{\text{th}}$  bit is set to  $1$  and the  $(i-2)^{\text{th}}$  through  $0^{\text{th}}$  bits are set to  $0$ .

Return the minimum number of operations to transform  $n$  into  $0$ .

User Accepted: 0

User Tried: 0

Total Accepted: 0

Total Submissions: 0

Difficulty: Hard

### Example 1:

**Input:**  $n = 0$

**Output:**  $0$

### Example 2:

**Input:**  $n = 3$

**Output:**  $2$

**Explanation:** The binary representation of  $3$  is  $"11"$ .

$"11" \rightarrow "01"$  with the 2nd operation since the  $0^{\text{th}}$  bit is  $1$ .

$"01" \rightarrow "00"$  with the 1st operation.

### Example 3:

**Input:**  $n = 6$

**Output:**  $4$

**Explanation:** The binary representation of  $6$  is  $"110"$ .

$"110" \rightarrow "010"$  with the 2nd operation since the 1st bit is  $1$  and  $0^{\text{th}}$  through  $0^{\text{th}}$  bits are

$"010" \rightarrow "011"$  with the 1st operation.

$"011" \rightarrow "001"$  with the 2nd operation since the  $0^{\text{th}}$  bit is  $1$ .

$"001" \rightarrow "000"$  with the 1st operation.

### Example 4:

**Input:**  $n = 9$

**Output:**  $14$

### Example 5:

**Input:** n = 333**Output:** 393**Constraints:**

- $0 \leq n \leq 10^9$

JavaScript



```
1 ▾ /**
2   * @param {number} n
3   * @return {number}
4   */
5 ▾ var minimumOneBitOperations = function(n) {
6
7   };
```

☐ Custom Testcase

Use Example Testcases

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