

1732. Minimum One Bit Operations to Make Integers Zero

Difficulty : Hard

<https://leetcode.com/problems/minimum-one-bit-operations-to-make-integers-zero>

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

- Change the rightmost (0^{th}) bit in the binary representation of n .
- Change the i^{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^{th} bits are set to 0.

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

Example 1:

Input: $n = 3$

Output: 2

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

"11" -> "01" with the 2^{nd} operation since the 0^{th} bit is 1.

"01" -> "00" with the 1^{st} operation.

Example 2:

Input: $n = 6$

Output: 4

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

"110" -> "010" with the 2^{nd} operation since the 1^{st} bit is 1 and 0^{th} through 0^{th} bits are 0.

"010" -> "011" with the 1^{st} operation.

"011" -> "001" with the 2^{nd} operation since the 0^{th} bit is 1.

"001" -> "000" with the 1^{st} operation.

Constraints:

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