

# 2571. Minimum Operations to Reduce an Integer to 0

## Description

You are given a positive integer `n`, you can do the following operation **any** number of times:

- Add or subtract a **power** of `2` from `n`.

Return *the minimum number of operations to make `n` equal to `0`*.

A number `x` is power of `2` if `x == 2i` where `i >= 0`.

### Example 1:

**Input:** `n = 39`

**Output:** `3`

**Explanation:** We can do the following operations:

- Add  $2^0 = 1$  to `n`, so now `n = 40`.
- Subtract  $2^3 = 8$  from `n`, so now `n = 32`.
- Subtract  $2^5 = 32$  from `n`, so now `n = 0`.

It can be shown that 3 is the minimum number of operations we need to make `n` equal to `0`.

### Example 2:

**Input:** `n = 54`

**Output:** `3`

**Explanation:** We can do the following operations:

- Add  $2^1 = 2$  to `n`, so now `n = 56`.
- Add  $2^3 = 8$  to `n`, so now `n = 64`.
- Subtract  $2^6 = 64$  from `n`, so now `n = 0`.

So the minimum number of operations is 3.

### Constraints:

- `1 <= n <= 105`

