1617. Stone Game IV

Difficulty : Hard

https://leetcode.com/problems/stone-game-iv

Alice and Bob take turns playing a game, with Alice starting first.

Initially, there are `n` stones in a pile. On each player's turn, that player makes a *move* consisting of removing **any** non-zero **square number** of stones in the pile.

Also, if a player cannot make a move, he/she loses the game.

Given a positive integer `n`, return `true` if and only if Alice wins the game otherwise return `false`, assuming both players play optimally.

Example 1:

```
Input: n = 1
Output: true
Explanation: Alice can remove 1 stone winning the game because Bob doesn't have any moves.
```

Example 2:

```
Input: n = 2
Output: false
Explanation: Alice can only remove 1 stone, after that Bob removes the last one winning the game (2 -> 1 -> 0).
```

Example 3:

```
Input: n = 4
Output: true
Explanation: n is already a perfect square, Alice can win with one move, removing 4 stones (4 -> 0).
```

Constraints:

- $1 <= n <= 10^5$