5447. Stone Game IV

My Submissions (/contest/biweekly-contest-30/problems/stone-game-iv/submissions/)

Back to Contest (/contest/biweekly-contest-30/)

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.

User Accepted:	987
User Tried:	1485
Total Accepted:	1047
Total Submissions:	2684
Difficulty:	Hard

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

Example 3:

Input: n = 4
Output: true

Explanation: n is already a perfect square, Alice can win with one move, removing 4 stones

Example 4:

Input: n = 7
Output: false

Explanation: Alice can't win the game if Bob plays optimally.

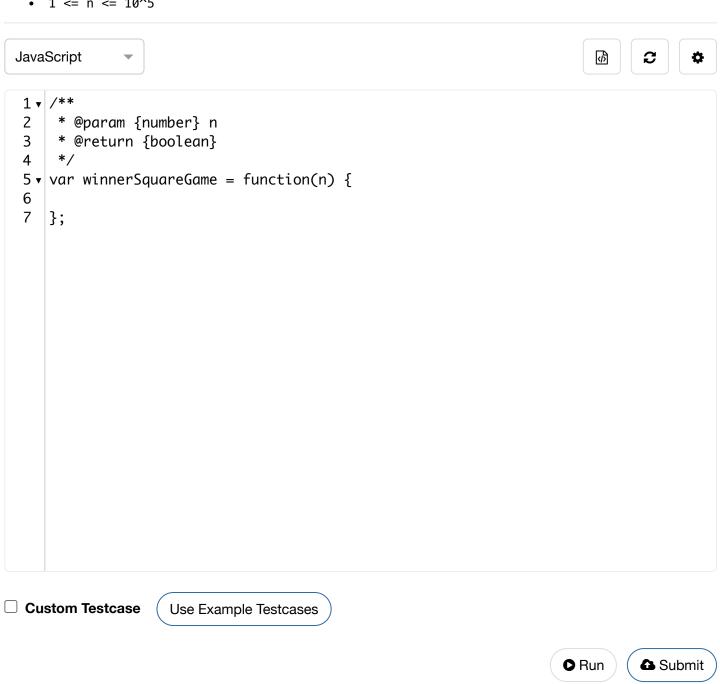
If Alice starts removing 4 stones, Bob will remove 1 stone then Alice should remove only 1 If Alice starts removing 1 stone, Bob will remove 4 stones then Alice only can remove 1 st

Example 5:

```
Input: n = 17
Output: false
Explanation: Alice can't win the game if Bob plays optimally.
```

Constraints:

• 1 <= n <= 10^5



Copyright © 2020 LeetCode Help Center (/support/) | Terms (/terms/) | Privacy Policy (/privacy/) United States (/region/)