

877. Stone Game

Description

Alice and Bob play a game with piles of stones. There are an **even** number of piles arranged in a row, and each pile has a **positive** integer number of stones `piles[i]` .

The objective of the game is to end with the most stones. The **total** number of stones across all the piles is **odd** , so there are no ties.

Alice and Bob take turns, with **Alice starting first** . Each turn, a player takes the entire pile of stones either from the **beginning** or from the **end** of the row. This continues until there are no more piles left, at which point the person with the **most stones wins** .

Assuming Alice and Bob play optimally, return `true` *if Alice wins the game, or* `false` *if Bob wins* .

Example 1:

Input: `piles = [5,3,4,5]`

Output: `true`

Explanation:

Alice starts first, and can only take the first 5 or the last 5.

Say she takes the first 5, so that the row becomes `[3, 4, 5]`.

If Bob takes 3, then the board is `[4, 5]`, and Alice takes 5 to win with 10 points.

If Bob takes the last 5, then the board is `[3, 4]`, and Alice takes 4 to win with 9 points.

This demonstrated that taking the first 5 was a winning move for Alice, so we return `true`.

Example 2:

Input: `piles = [3,7,2,3]`

Output: `true`

Constraints:

- `2 <= piles.length <= 500`
- `piles.length` is **even** .
- `1 <= piles[i] <= 500`
- `sum(piles[i])` is **odd** .

