909. Stone Game

Difficulty : Medium

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

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**.