

## Stone Game II

Alice and Bob continue their games with piles of stones. There are a 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.

Alice and Bob take turns, with Alice starting first. Initially,  $M = 1$ .

On each player's turn, that player can take **all the stones** in the **first**  $X$  remaining piles, where  $1 \leq X \leq 2M$ . Then, we set  $M = \max(M, X)$ .

The game continues until all the stones have been taken.

Assuming Alice and Bob play optimally, return the maximum number of stones Alice can get.

### Example 1:

**Input:**  $piles = [2, 7, 9, 4, 4]$

**Output:** 10

**Explanation:** If Alice takes one pile at the beginning, Bob takes two piles, then Alice takes 2 piles again. Alice can get  $2 + 4 + 4 = 10$  piles in total. If Alice takes two piles at the beginning, then Bob can take all three piles left. In this case, Alice get  $2 + 7 = 9$  piles in total. So we return 10 since it's larger.

### Example 2:

**Input:**  $piles = [1, 2, 3, 4, 5, 100]$

**Output:** 104

### Constraints:

- $1 \leq piles.length \leq 100$
- $1 \leq piles[i] \leq 10^4$