

403. Frog Jump

Difficulty : Hard

<https://leetcode.com/problems/frog-jump>

A frog is crossing a river. The river is divided into some number of units, and at each unit, there may or may not exist a stone. The frog can jump on a stone, but it must not jump into the water.

Given a list of stones positions (in units) in sorted **ascending order**, determine if the frog can cross the river by landing on the last stone. Initially, the frog is on the first stone and assumes the first jump must be 1 unit.

If the frog's last jump was k units, its next jump must be either $k - 1$, k , or $k + 1$ units. The frog can only jump in the forward direction.

Example 1:

Input: stones = [0,1,3,5,6,8,12,17]

Output: true

Explanation: The frog can jump to the last stone by jumping 1 unit to the 2nd stone, then 2 units to the 3rd stone, then 2 units to the 4th stone, then 3 units to the 6th stone, 4 units to the 7th stone,

Example 2:

Input: stones = [0,1,2,3,4,8,9,11]

Output: false

Explanation: There is no way to jump to the last stone as the gap between the 5th and 6th stone is too large.

Constraints:

- $2 \leq \text{stones.length} \leq 2000$
- $0 \leq \text{stones}[i] \leq 2^{31} - 1$
- $\text{stones}[0] == 0$
- stones is sorted in a strictly increasing order.