Given an array A of integers, return true if and only if we can partition the array into three **non-empty** parts with equal sums.

Formally, we can partition the array if we can find indexes i+1 < j with (A[0] + A[1] + ... + A[i] == A[i+1] + A[i+2] + ... + A[j-1] == A[j] + A[j-1] + ... + A[A.length - 1])

**Example 1:**

**Input:** [0,2,1,-6,6,-7,9,1,2,0,1]

**Output:** true

**Explanation:** 0 + 2 + 1 = -6 + 6 - 7 + 9 + 1 = 2 + 0 + 1

**Example 2:**

**Input:** [0,2,1,-6,6,7,9,-1,2,0,1]

**Output:** false

**Example 3:**

**Input:** [3,3,6,5,-2,2,5,1,-9,4]

**Output:** true

**Explanation:** 3 + 3 = 6 = 5 - 2 + 2 + 5 + 1 - 9 + 4

**Note:**

1. 3 <= A.length <= 50000
2. -10000 <= A[i] <= 10000