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548. Split Array with Equal Sum

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Given an integer array `nums` of length `n`, return `true` if there is a triplet (i, j, k) which satisfies the following conditions:

- $0 \leq i, i + 1 \leq j, j + 1 \leq k \leq n - 1$
- The sum of subarrays $(0, i - 1)$, $(i + 1, j - 1)$, $(j + 1, k - 1)$ and $(k + 1, n - 1)$ is equal.

A subarray (l, r) represents a slice of the original array starting from the element indexed `l` to the element indexed `r`.

Example 1:

Input: nums = [1,2,1,2,1,2,1]

Output: true

Explanation:

i = 1, j = 3, k = 5.

sum(0, i - 1) = sum(0, 0) = 1

sum(i + 1, j - 1) = sum(2, 2) = 1

sum(j + 1, k - 1) = sum(4, 4) = 1

sum(k + 1, n - 1) = sum(6, 6) = 1

Example 2:

Input: nums = [1,2,1,2,1,2,1,2]

Output: false

Constraints:

- $n == \text{nums.length}$
- $1 \leq n \leq 2000$
- $-10^5 \leq \text{nums}[i] \leq 10^5$

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```
1 public class Solution {
2     public boolean splitArray(int[] nums) {
3         if (nums.length < 7)
4             return false;
5         int[] sum = new int[nums.length];
6         sum[0] = nums[0];
7         for (int i = 1; i < nums.length; i++) {
8             sum[i] = sum[i - 1] + nums[i];
9         }
10        for (int j = 3; j < nums.length - 3; j++) {
11            HashSet< Integer> set = new HashSet<> ();
12            for (int i = 1; i < j - 1; i++) {
13                if (sum[i - 1] == sum[j - 1] - sum[i])
14                    set.add(sum[i - 1]);
15            }
16            for (int k = j + 2; k < nums.length - 1; k++) {
17                if (sum[nums.length - 1] - sum[k] == sum[k - 1] - sum[j] && set.contains(sum[k - 1] - sum[j]))
18                    return true;
19            }
20        }
21        return false;
22    }
23 }
```