Problem 517: Super Washing Machines

Problem Information

Difficulty: Hard
Acceptance Rate: 43.44%
Paid Only: No
Tags: Array, Greedy

Problem Description

You have `n` super washing machines on a line. Initially, each washing machine has some dresses or is empty.

For each move, you could choose any `m` (`1 <= m <= n`) washing machines, and pass one dress of each washing machine to one of its adjacent washing machines at the same time.

Given an integer array `machines` representing the number of dresses in each washing machine from left to right on the line, return _the minimum number of moves to make all the washing machines have the same number of dresses_. If it is not possible to do it, return `-1`.

Example 1:

Input: machines = [1,0,5] **Output:** 3 **Explanation:** 1st move: 1 0 <-- 5 => 1 1 4 2nd move: 1 <-- 1 <-- 4 => 2 1 3 3rd move: 2 1 <-- 3 => 2 2 2

Example 2:

Input: machines = [0,3,0] **Output:** 2 **Explanation:** 1st move: 0 <-- 3 0 => 1 2 0 2nd move: 1 2 --> 0 => 1 1 1

Example 3:

Input: machines = [0,2,0] **Output:** -1 **Explanation:** It's impossible to make all three washing machines have the same number of dresses.

Constraints:

* `n == machines.length` * `1 <= n <= 104` * `0 <= machines[i] <= 105`

Code Snippets

C++:

```
class Solution {
public:
int findMinMoves(vector<int>& machines) {

}
};
```

Java:

```
class Solution {
public int findMinMoves(int[] machines) {

}
}
```

Python3:

```
class Solution:
def findMinMoves(self, machines: List[int]) -> int:
```