

# 1478. Allocate Mailboxes

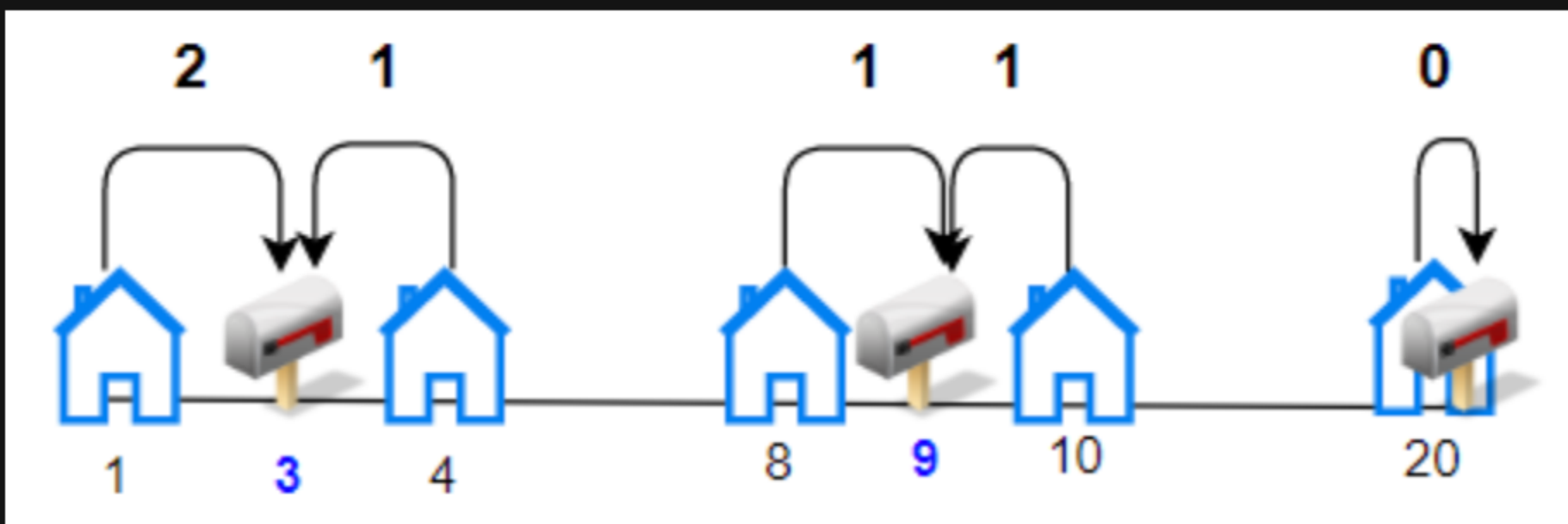
## Description

Given the array `houses` where `houses[i]` is the location of the  $i^{\text{th}}$  house along a street and an integer `k`, allocate `k` mailboxes in the street.

Return *the minimum total distance between each house and its nearest mailbox*.

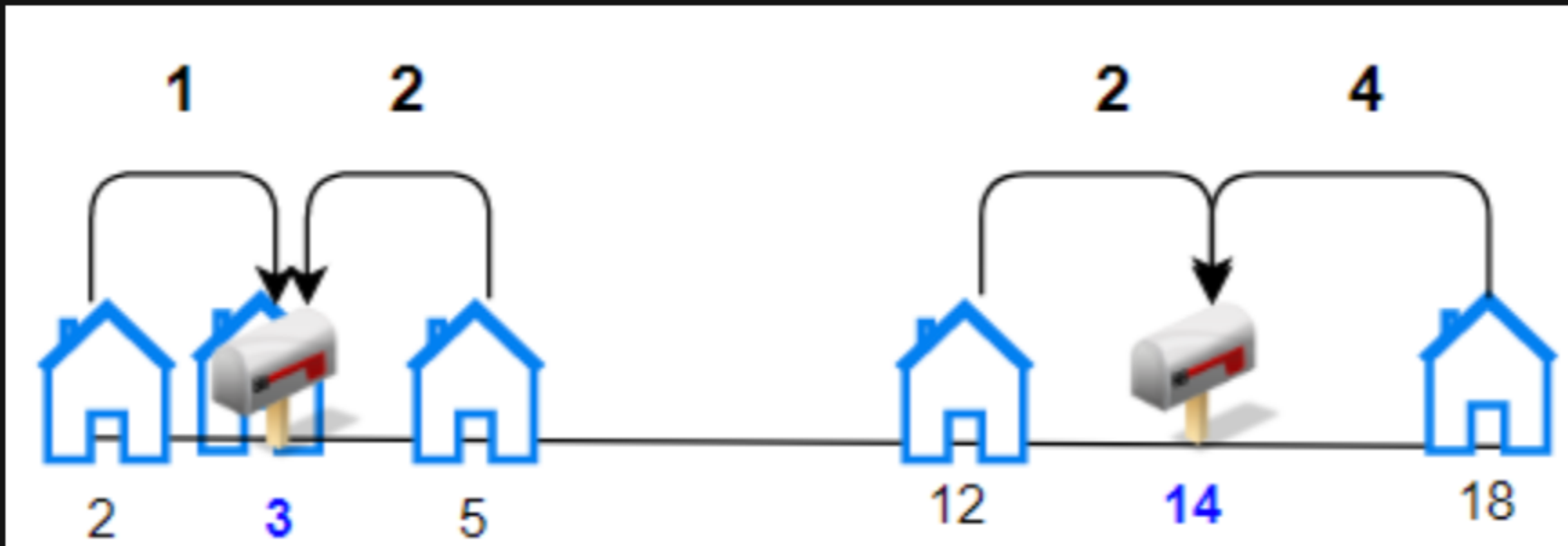
The test cases are generated so that the answer fits in a 32-bit integer.

### Example 1:



**Input:** `houses = [1,4,8,10,20]`, `k = 3`  
**Output:** 5  
**Explanation:** Allocate mailboxes in position 3, 9 and 20.  
Minimum total distance from each houses to nearest mailboxes is  $|3-1| + |4-3| + |9-8| + |10-9| + |20-20| = 5$

### Example 2:



**Input:** `houses = [2,3,5,12,18]`, `k = 2`  
**Output:** 9  
**Explanation:** Allocate mailboxes in position 3 and 14.  
Minimum total distance from each houses to nearest mailboxes is  $|2-3| + |3-3| + |5-3| + |12-14| + |18-14| = 9$ .

### Constraints:

- $1 \leq k \leq \text{houses.length} \leq 100$
- $1 \leq \text{houses}[i] \leq 10^4$
- All the integers of `houses` are **unique**.

