

2033. Minimum Operations to Make a Uni-Value Grid

Description

You are given a 2D integer `grid` of size `m x n` and an integer `x`. In one operation, you can **add** `x` to or **subtract** `x` from any element in the `grid`.

A **uni-value grid** is a grid where all the elements of it are equal.

Return *the minimum number of operations to make the grid uni-value*. If it is not possible, return `-1`.

Example 1:

2	4
6	8

Input: `grid = [[2,4],[6,8]]`, `x = 2`
Output: `4`
Explanation: We can make every element equal to 4 by doing the following:
– Add `x` to 2 once.
– Subtract `x` from 6 once.
– Subtract `x` from 8 twice.
A total of 4 operations were used.

Example 2:

1	5
2	3

Input: `grid = [[1,5],[2,3]]`, `x = 1`
Output: `5`
Explanation: We can make every element equal to 3.

Example 3:

1	2
3	4

Input: `grid = [[1,2],[3,4]]`, `x = 2`
Output: `-1`
Explanation: It is impossible to make every element equal.

Constraints:

- `m == grid.length`
- `n == grid[i].length`
- `1 <= m, n <= 105`
- `1 <= m * n <= 105`
- `1 <= x, grid[i][j] <= 104`

