Given a m x n binary matrix mat. In one step, you can choose one cell and flip it and all the four neighbors of it if they exist (Flip is changing 1 to 0 and 0 to 1). A pair of cells are called neighbors if they share one edge.

Return the *minimum number of steps* required to convert mat to a zero matrix or -1 if you cannot.

A **binary matrix** is a matrix with all cells equal to 0 or 1 only.

A **zero matrix** is a matrix with all cells equal to 0.

**Example 1:**

A picture containing text, clock

Description automatically generated

**Input:** mat = [[0,0],[0,1]]

**Output:** 3

**Explanation:** One possible solution is to flip (1, 0) then (0, 1) and finally (1, 1) as shown.

**Example 2:**

**Input:** mat = [[0]]

**Output:** 0

**Explanation:** Given matrix is a zero matrix. We do not need to change it.

**Example 3:**

**Input:** mat = [[1,0,0],[1,0,0]]

**Output:** -1

**Explanation:** Given matrix cannot be a zero matrix.

**Constraints:**

* m == mat.length
* n == mat[i].length
* 1 <= m, n <= 3
* mat[i][j] is either 0 or 1.