1975. Maximum Matrix Sum

Description

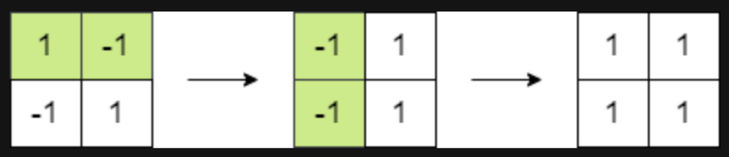
You are given an `n x n` integer `matrix`. You can do the following operation **any** number of times:

- Choose any two **adjacent** elements of `matrix` and **multiply** each of them by `-1`.

Two elements are considered **adjacent** if and only if they share a **border**.

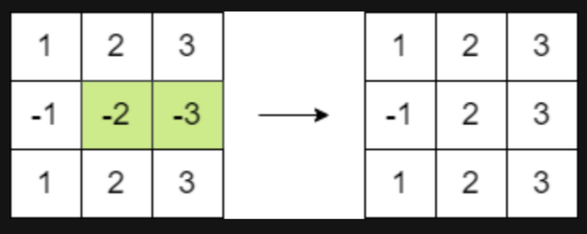
Your goal is to **maximize** the summation of the matrix's elements. Return *the **maximum** sum of the matrix's elements using the operation mentioned above.*

Example 1:




```
Input: matrix = [[1,-1],[-1,1]]
Output: 4
Explanation: We can follow the following steps to reach sum equals 4:
- Multiply the 2 elements in the first row by -1.
- Multiply the 2 elements in the first column by -1.
```

Example 2:




```
Input: matrix = [[1,2,3],[-1,-2,-3],[1,2,3]]
Output: 16
Explanation: We can follow the following step to reach sum equals 16:
- Multiply the 2 last elements in the second row by -1.
```

Constraints:

- `n == matrix.length == matrix[i].length`
- `2 <= n <= 250`
- `-10^5 <= matrix[i][j] <= 10^5`