Problem 861: Score After Flipping Matrix

Problem Information

Difficulty: Medium
Acceptance Rate: 0.00%
Paid Only: No

Problem Description

You are given an

m x n

binary matrix

grid

.

A

move

consists of choosing any row or column and toggling each value in that row or column (i.e., changing all

0

's to

1

's, and all

1

's to

0

's).

Every row of the matrix is interpreted as a binary number, and the

score

of the matrix is the sum of these numbers.

Return

the highest possible

score

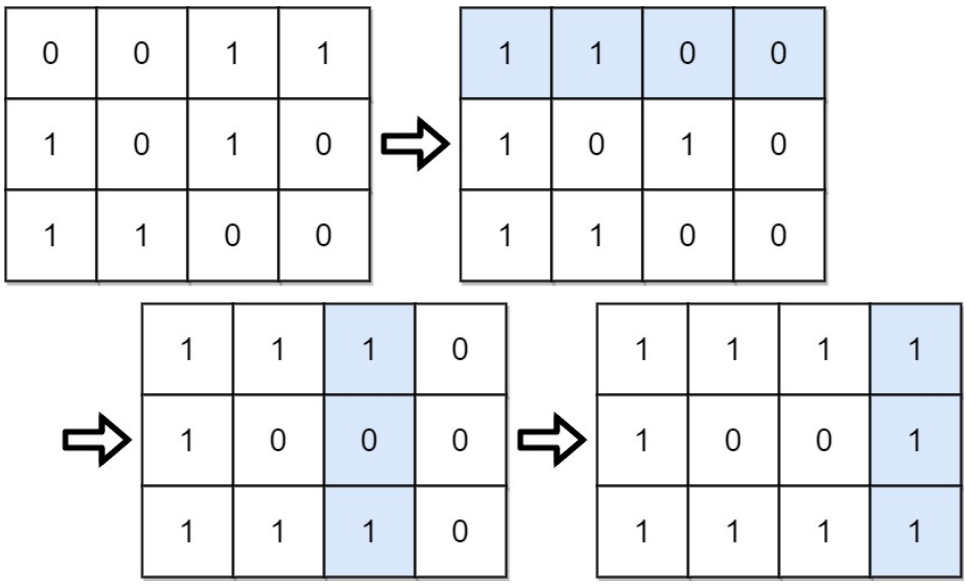
after making any number of

moves

(including zero moves)

.

Example 1:



Input:

grid = [[0,0,1,1],[1,0,1,0],[1,1,0,0]]

Output:

39

Explanation:

0b1111 + 0b1001 + 0b1111 = 15 + 9 + 15 = 39

Example 2:

Input:

grid = [[0]]

Output:

1

Constraints:

m == grid.length

n == grid[i].length

1 <= m, n <= 20

grid[i][j]

is either

0

or

1

.

Code Snippets

C++:

```
class Solution {
public:
int matrixScore(vector<vector<int>>& grid) {

}
};
```

Java:

```
class Solution {
public int matrixScore(int[][] grid) {

}
}
```

Python3:

```
class Solution:
def matrixScore(self, grid: List[List[int]]) -> int:
```

Python:

```
class Solution(object):
def matrixScore(self, grid):
"""
:type grid: List[List[int]]
:rtype: int
"""
```

JavaScript:

```
/**
* @param {number[][]} grid
* @return {number}
*/
var matrixScore = function(grid) {

};
```

TypeScript:

```
function matrixScore(grid: number[][]): number {

};
```

C#:

```
public class Solution {
public int MatrixScore(int[][] grid) {

}
}
```

C:

```
int matrixScore(int** grid, int gridSize, int* gridColSize) {

}
```

Go:

```
func matrixScore(grid [][]int) int {
```

```
}
```

Kotlin:

```
class Solution {
fun matrixScore(grid: Array<IntArray>): Int {

}
}
```

Swift:

```
class Solution {
func matrixScore(_ grid: [[Int]]) -> Int {

}
}
```

Rust:

```
impl Solution {
pub fn matrix_score(grid: Vec<Vec<i32>>) -> i32 {

}
}
```

Ruby:

```
# @param {Integer[][]} grid
# @return {Integer}
def matrix_score(grid)

end
```

PHP:

```
class Solution {

/**
* @param Integer[][] $grid
* @return Integer
*/
```

```
function matrixScore($grid) {

}
}
```

Dart:

```
class Solution {
int matrixScore(List<List<int>> grid) {

}
}
```

Scala:

```
object Solution {
def matrixScore(grid: Array[Array[Int]]): Int = {

}
}
```

Elixir:

```
defmodule Solution do
@spec matrix_score(grid :: [[integer]]) :: integer
def matrix_score(grid) do

end
end
```

Erlang:

```
-spec matrix_score(Grid :: [[integer()]]) -> integer().
matrix_score(Grid) ->
.
```

Racket:

```
(define/contract (matrix-score grid)
(-> (listof (listof exact-integer?)) exact-integer?)
)
```

Solutions

C++ Solution:

```
/*
* Problem: Score After Flipping Matrix
* Difficulty: Medium
* Tags: array, greedy
*
* Approach: Use two pointers or sliding window technique
* Time Complexity: O(n) or O(n log n)
* Space Complexity: O(1) to O(n) depending on approach
*/

class Solution {
public:
int matrixScore(vector<vector<int>>& grid) {

}
};
```

Java Solution:

```
/**
* Problem: Score After Flipping Matrix
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*/

class Solution {
public int matrixScore(int[][] grid) {

}
}
```

Python3 Solution:

```
"""
Problem: Score After Flipping Matrix
Difficulty: Medium
Tags: array, greedy

Approach: Use two pointers or sliding window technique
Time Complexity: O(n) or O(n log n)
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"""

class Solution:
def matrixScore(self, grid: List[List[int]]) -> int:
# TODO: Implement optimized solution
pass
```

Python Solution:

```
class Solution(object):
def matrixScore(self, grid):
"""
:type grid: List[List[int]]
:rtype: int
"""
```

JavaScript Solution:

```
/**
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/**
* @param {number[][]} grid
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var matrixScore = function(grid) {
```

```
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TypeScript Solution:

```
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function matrixScore(grid: number[][]): number {

};
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C# Solution:

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public class Solution {
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Go Solution:

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// Problem: Score After Flipping Matrix
// Difficulty: Medium
// Tags: array, greedy
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// Approach: Use two pointers or sliding window technique
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func matrixScore(grid [][]int) int {

}
```

Kotlin Solution:

```
class Solution {
fun matrixScore(grid: Array<IntArray>): Int {

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class Solution {
func matrixScore(_ grid: [[Int]]) -> Int {

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impl Solution {
pub fn matrix_score(grid: Vec<Vec<i32>>) -> i32 {

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Ruby Solution:

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# @param {Integer[][]} grid
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def matrix_score(grid)

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PHP Solution:

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class Solution {

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function matrixScore($grid) {

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