```
class Solution {
    public int maximalSquare(char[][] matrix) {
        if (matrix == null || matrix.length == 0) return 0;
        int row = matrix.length, col = matrix[0].length, res = 0;
        int[][] dp = new int[row+1][col+1];

        for (int i = 0; i < row; i++) {
            for (int j = 0; j < col; j++) {
                if (matrix[i][j] == '1') {
                    int val = 1 + Math.min(Math.min(dp[i+1][j], dp[i][j+1]), dp[i][j]);
                    res = Math.max(res, val);
                    dp[i+1][j+1] = val;
                }
            }
        }
        return res * res;
    }
}
```

Given a 2D binary matrix filled with 0's and 1's, find the largest square containing only 1's and return its area.

Example:

Input:

```
1 0 1 0 0
1 0 1 1 1
1 1 1 1 1
1 0 0 1 0
```

Output: 4