

# 1504. Count Submatrices With All Ones

## Description

Given an `m x n` binary matrix `mat` , *return the number of **submatrices** that have all ones* .

### Example 1:

1	0	1
1	1	0
1	1	0

**Input:** `mat = [[1,0,1],[1,1,0],[1,1,0]]`  
**Output:** 13  
**Explanation:**  
There are 6 rectangles of side 1x1.  
There are 2 rectangles of side 1x2.  
There are 3 rectangles of side 2x1.  
There is 1 rectangle of side 2x2.  
There is 1 rectangle of side 3x1.  
Total number of rectangles = 6 + 2 + 3 + 1 + 1 = 13.

### Example 2:

0	1	1	0
0	1	1	1
1	1	1	0

**Input:** `mat = [[0,1,1,0],[0,1,1,1],[1,1,1,0]]`  
**Output:** 24  
**Explanation:**  
There are 8 rectangles of side 1x1.  
There are 5 rectangles of side 1x2.  
There are 2 rectangles of side 1x3.  
There are 4 rectangles of side 2x1.  
There are 2 rectangles of side 2x2.  
There are 2 rectangles of side 3x1.  
There is 1 rectangle of side 3x2.  
Total number of rectangles = 8 + 5 + 2 + 4 + 2 + 2 + 1 = 24.

### Constraints:

- `1 <= m, n <= 150`
- `mat[i][j]` is either `0` or `1` .

