302. Smallest Rectangle Enclosing Black Pixels

Solved

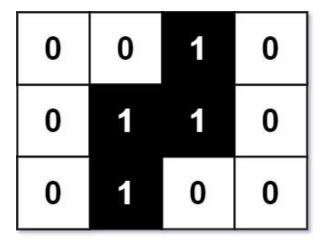
You are given an mxn binary matrix image where 0 represents a white pixel and 1 represents a black pixel.

The black pixels are connected (i.e., there is only one black region). Pixels are connected horizontally and vertically.

Given two integers x and y that represents the location of one of the black pixels, return the area of the smallest (axis-aligned) rectangle that encloses all black pixels.

You must write an algorithm with less than O(mn) runtime complexity

Example 1:



Input: image = [["0","0","1","0"],["0","1","0"],["0","1","0","0"]], x = 0, y = 2

Output: 6

Example 2:

Input: image = [["1"]], x = 0, y = 0

Output: 1

Constraints:

- m == image.length
- n == image[i].length
- 1 <= m, n <= 100
- image[i][j] is either '0' or '1'.
- 0 <= x < m
- 0 <= y < n
- image[x][y] == '1'.
- The black pixels in the image only form **one component**.

Seen this question in a real interview before? 1/5

Yes No

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