You are given a 2D matrix of size m x n, consisting of non-negative integers. You are also given an integer k.

The **value** of coordinate (a, b) of the matrix is the XOR of all matrix[i][j] where 0 <= i <= a < m and 0 <= j <= b < n **(0-indexed)**.

Find the kth largest value **(1-indexed)** of all the coordinates of matrix.

**Example 1:**

**Input:** matrix = [[5,2],[1,6]], k = 1

**Output:** 7

**Explanation:** The value of coordinate (0,1) is 5 XOR 2 = 7, which is the largest value.

**Example 2:**

**Input:** matrix = [[5,2],[1,6]], k = 2

**Output:** 5

**Explanation:** The value of coordinate (0,0) is 5 = 5, which is the 2nd largest value.

**Example 3:**

**Input:** matrix = [[5,2],[1,6]], k = 3

**Output:** 4

**Explanation:** The value of coordinate (1,0) is 5 XOR 1 = 4, which is the 3rd largest value.

**Example 4:**

**Input:** matrix = [[5,2],[1,6]], k = 4

**Output:** 0

**Explanation:** The value of coordinate (1,1) is 5 XOR 2 XOR 1 XOR 6 = 0, which is the 4th largest value.

**Constraints:**

* m == matrix.length
* n == matrix[i].length
* 1 <= m, n <= 1000
* 0 <= matrix[i][j] <= 106
* 1 <= k <= m \* n