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Description

Solution

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Submissions

1057. Campus Bikes

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On a campus represented on the X-Y plane, there are n workers and m bikes, with $n \leq m$.

You are given an array `workers` of length n where `workers[i] = [xi, yi]` is the position of the i^{th} worker. You are also given an array `bikes` of length m where `bikes[j] = [xj, yj]` is the position of the j^{th} bike. All the given positions are **unique**.

Assign a bike to each worker. Among the available bikes and workers, we choose the $(\text{worker}_i, \text{bike}_j)$ pair with the shortest **Manhattan distance** between each other and assign the bike to that worker.

If there are multiple $(\text{worker}_i, \text{bike}_j)$ pairs with the same shortest **Manhattan distance**, we choose the pair with the **smallest worker index**. If there are multiple ways to do that, we choose the pair with the **smallest bike index**. Repeat this process until there are no available workers.

Return an array `answer` of length n , where `answer[i]` is the index (**0-indexed**) of the bike that the i^{th} worker is assigned to.

The **Manhattan distance** between two points p_1 and p_2 is $\text{Manhattan}(p_1, p_2) = |p_1.x - p_2.x| + |p_1.y - p_2.y|$.

Example 1:

Input: `workers = [[0,0],[2,1]]`, `bikes = [[1,2],[3,3]]`
Output: `[1,0]`
Explanation: Worker 1 grabs Bike 0 as they are closest (without ties), and Worker 0 is assigned Bike 1. So the output is `[1, 0]`.

Example 2:

Input: `workers = [[0,0],[1,1],[2,0]]`, `bikes = [[1,0],[2,2],[2,1]]`
Output: `[0,2,1]`
Explanation: Worker 0 grabs Bike 0 at first. Worker 1 and Worker 2 share the same distance to Bike 2, thus Worker 1 is assigned to Bike 2, and Worker 2 will take Bike 1. So the output is `[0,2,1]`.

Constraints:

- $n == \text{workers.length}$
- $m == \text{bikes.length}$
- $1 \leq n \leq m \leq 1000$
- $\text{workers}[i].\text{length} == \text{bikes}[j].\text{length} == 2$
- $0 \leq x_i, y_i < 1000$
- $0 \leq x_j, y_j < 1000$
- All worker and bike locations are **unique**.

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Yes

No

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```
1 class Solution {
2     public int[] assignBikes(int[][] workers, int[][] bikes) {
3
4     }
5 }
```

Console

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