2940. Find Building Where Alice and Bob Can Meet

Description

You are given a **0-indexed** array `heights` of positive integers, where `heights[i]` represents the height of the `i th` building.

If a person is in building `i`, they can move to any other building `j` if and only if `i < j` and `heights[i] < heights[j]`.

You are also given another array `queries` where `queries[i] = [a i, b i]`. On the `i th` query, Alice is in building `a i` while Bob is in building `b i`.

Return *an array* `ans` *where* `ans[i]` *is* ***the index of the leftmost building*** *where Alice and Bob can meet on the* `i th` *query. If Alice and Bob cannot move to a common building on query* `i`, *set* `ans[i]` *to* `-1`.

Example 1:

```
Input: heights = [6,4,8,5,2,7], queries = [[0,1],[0,3],[2,4],[3,4],[2,2]]
Output: [2,5,-1,5,2]
Explanation: In the first query, Alice and Bob can move to building 2 since heights[0] < heights[2] and heights[1] < heights[2].
In the second query, Alice and Bob can move to building 5 since heights[0] < heights[5] and heights[3] < heights[5].
In the third query, Alice cannot meet Bob since Alice cannot move to any other building.
In the fourth query, Alice and Bob can move to building 5 since heights[3] < heights[5] and heights[4] < heights[5].
In the fifth query, Alice and Bob are already in the same building.
For ans[i] != -1, It can be shown that ans[i] is the leftmost building where Alice and Bob can meet.
For ans[i] == -1, It can be shown that there is no building where Alice and Bob can meet.
```

Example 2:

```
Input: heights = [5,3,8,2,6,1,4,6], queries = [[0,7],[3,5],[5,2],[3,0],[1,6]]
Output: [7,6,-1,4,6]
Explanation: In the first query, Alice can directly move to Bob's building since heights[0] < heights[7].
In the second query, Alice and Bob can move to building 6 since heights[3] < heights[6] and heights[5] < heights[6].
In the third query, Alice cannot meet Bob since Bob cannot move to any other building.
In the fourth query, Alice and Bob can move to building 4 since heights[3] < heights[4] and heights[0] < heights[4].
In the fifth query, Alice can directly move to Bob's building since heights[1] < heights[6].
For ans[i] != -1, It can be shown that ans[i] is the leftmost building where Alice and Bob can meet.
For ans[i] == -1, It can be shown that there is no building where Alice and Bob can meet.
```

Constraints:

- `1 <= heights.length <= 5 * 10 4`
- `1 <= heights[i] <= 10 9`
- `1 <= queries.length <= 5 * 10 4`
- `queries[i] = [a i, b i]`
- `0 <= a i, b i <= heights.length - 1`