Problem 406: Queue Reconstruction by Height

Problem Information

Difficulty: Medium
Acceptance Rate: 74.44%
Paid Only: No
Tags: Array, Binary Indexed Tree, Segment Tree, Sorting

Problem Description

You are given an array of people, `people`, which are the attributes of some people in a queue (not necessarily in order). Each `people[i] = [hi, ki]` represents the `ith` person of height `hi` with **exactly** `ki` other people in front who have a height greater than or equal to `hi`.

Reconstruct and return _the queue that is represented by the input array_`people`. The returned queue should be formatted as an array `queue`, where `queue[j] = [hj, kj]` is the attributes of the `jth` person in the queue (`queue[0]` is the person at the front of the queue).

Example 1:

Input: people = [[7,0],[4,4],[7,1],[5,0],[6,1],[5,2]] **Output:** [[5,0],[7,0],[5,2],[6,1],[4,4],[7,1]] **Explanation:** Person 0 has height 5 with no other people taller or the same height in front. Person 1 has height 7 with no other people taller or the same height in front. Person 2 has height 5 with two persons taller or the same height in front, which is person 0 and 1. Person 3 has height 6 with one person taller or the same height in front, which is person 1. Person 4 has height 4 with four people taller or the same height in front, which are people 0, 1, 2, and 3. Person 5 has height 7 with one person taller or the same height in front, which is person 1. Hence [[5,0],[7,0],[5,2],[6,1],[4,4],[7,1]] is the reconstructed queue.

Example 2:

Input: people = [[6,0],[5,0],[4,0],[3,2],[2,2],[1,4]] **Output:** [[4,0],[5,0],[2,2],[3,2],[1,4],[6,0]]

Constraints:

* `1 <= people.length <= 2000` * `0 <= hi <= 106` * `0 <= ki < people.length` * It is guaranteed that the queue can be reconstructed.

Code Snippets

C++:

```cpp
class Solution {
public:
vector<vector<int>> reconstructQueue(vector<vector<int>>& people) {


}
};
```

Java:

```java
class Solution {
public int[][] reconstructQueue(int[][] people) {


}
}
```

Python3:

```python
class Solution:
def reconstructQueue(self, people: List[List[int]]) -> List[List[int]]:
```