Problem 1272: Remove Interval

Problem Information

Difficulty: Medium
Acceptance Rate: 67.02%
Paid Only: Yes
Tags: Array

Problem Description

A set of real numbers can be represented as the union of several disjoint intervals, where each interval is in the form `[a, b)`. A real number `x` is in the set if one of its intervals `[a, b)` contains `x` (i.e. `a <= x < b`).

You are given a **sorted** list of disjoint intervals `intervals` representing a set of real numbers as described above, where `intervals[i] = [ai, bi]` represents the interval `[ai, bi)`. You are also given another interval `toBeRemoved`.

Return _the set of real numbers with the interval_`toBeRemoved` _**removed** from_ __`intervals` _. In other words, return the set of real numbers such that every_`x` _in the set is in_`intervals` _but**not** in _`toBeRemoved` _. Your answer should be a**sorted** list of disjoint intervals as described above._

Example 1:

Input: intervals = [[0,2],[3,4],[5,7]], toBeRemoved = [1,6] **Output:** [[0,1],[6,7]]

Example 2:

Input: intervals = [[0,5]], toBeRemoved = [2,3] **Output:** [[0,2],[3,5]]

Example 3:

Input: intervals = [[-5,-4],[-3,-2],[1,2],[3,5],[8,9]], toBeRemoved = [-1,4] **Output:** [[-5,-4],[-3,-2],[4,5],[8,9]]

Constraints:

* `1 <= intervals.length <= 104` * `-109 <= ai < bi <= 109`

Code Snippets

C++:

```
class Solution {
public:
vector<vector<int>> removeInterval(vector<vector<int>>& intervals,
vector<int>& toBeRemoved) {

}
};
```

Java:

```
class Solution {
public List<List<Integer>> removeInterval(int[][] intervals, int[]
toBeRemoved) {

}
}
```

Python3:

```
class Solution:
def removeInterval(self, intervals: List[List[int]], toBeRemoved: List[int])
-> List[List[int]]:
```