2751. Robot Collisions

Description

There are `n` **1-indexed** robots, each having a position on a line, health, and movement direction.

You are given **0-indexed** integer arrays `positions`, `healths`, and a string `directions` (`directions[i]` is either **'L'** for **left** or **'R'** for **right**). All integers in `positions` are **unique**.

All robots start moving on the line **simultaneously** at the **same speed** in their given directions. If two robots ever share the same position while moving, they will **collide**.

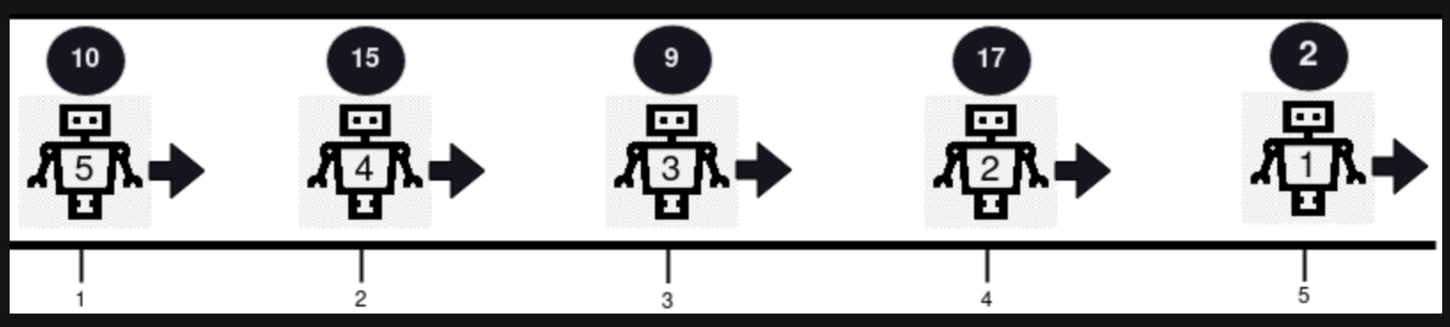
If two robots collide, the robot with **lower health** is **removed** from the line, and the health of the other robot **decreases** **by one**. The surviving robot continues in the **same** direction it was going. If both robots have the **same** health, they are both removed from the line.

Your task is to determine the **health** of the robots that survive the collisions, in the same **order** that the robots were given, i.e. final heath of robot 1 (if survived), final health of robot 2 (if survived), and so on. If there are no survivors, return an empty array.

Return *an array containing the health of the remaining robots (in the order they were given in the input), after no further collisions can occur.*

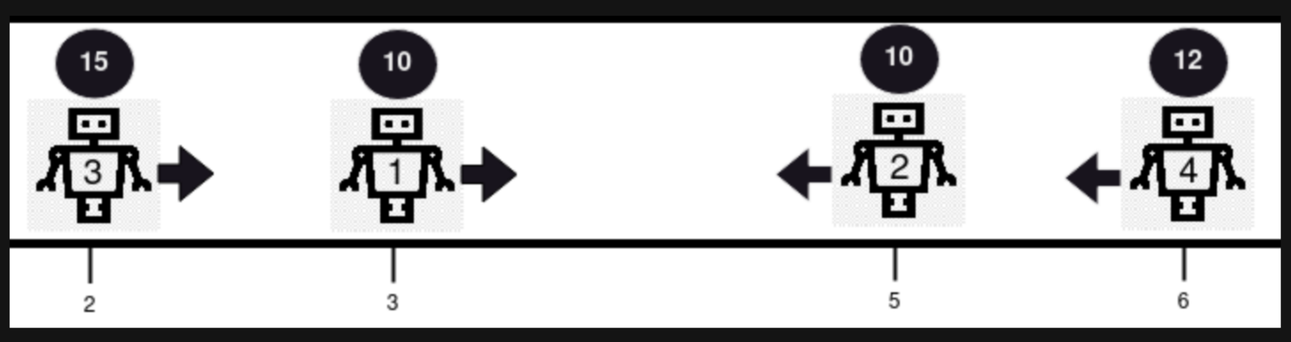
Note: The positions may be unsorted.

Example 1:




```
Input: positions = [5,4,3,2,1], healths = [2,17,9,15,10], directions = "RRRRR"
Output: [2,17,9,15,10]
Explanation: No collision occurs in this example, since all robots are moving in the same direction. So, the health of the robots in order from the first robot is returned, [2, 17, 9, 15, 10].
```

Example 2:




```
Input: positions = [3,5,2,6], healths = [10,10,15,12], directions = "RLRL"
Output: [14]
Explanation: There are 2 collisions in this example. Firstly, robot 1 and robot 2 will collide, and since both have the same health, they will be removed from the line. Next, robot 3 and robot 4 will collide and since robot 4's health is smaller, it gets removed, and robot 3's health becomes 15 - 1 = 14. Only robot 3 remains, so we return [14].
```

Example 3:


```
Input: positions = [1,2,5,6], healths = [10,10,11,11], directions = "RLRL"
Output: []
Explanation: Robot 1 and robot 2 will collide and since both have the same health, they are both removed. Robot 3 and 4 will collide and since both have the same health, they are both removed. So, we return an empty array, [].
```

Constraints:

- `1 <= positions.length == healths.length == directions.length == n <= 10^5`
- `1 <= positions[i], healths[i] <= 10^9`
- `directions[i] == 'L'` or `directions[i] == 'R'`
- All values in `positions` are distinct