Problem 1333: Filter Restaurants by Vegan-Friendly, Price and Distance

Problem Information

Difficulty: Medium
Acceptance Rate: 63.81%
Paid Only: No
Tags: Array, Sorting

Problem Description

Given the array `restaurants` where `restaurants[i] = [idi, ratingi, veganFriendlyi, pricei, distancei]`. You have to filter the restaurants using three filters.

The `veganFriendly` filter will be either _true_ (meaning you should only include restaurants with `veganFriendlyi` set to true) or _false_ (meaning you can include any restaurant). In addition, you have the filters `maxPrice` and `maxDistance` which are the maximum value for price and distance of restaurants you should consider respectively.

Return the array of restaurant _**IDs**_ after filtering, ordered by **rating** from highest to lowest. For restaurants with the same rating, order them by _**id**_ from highest to lowest. For simplicity `veganFriendlyi` and `veganFriendly` take value _1_ when it is _true_ , and _0_ when it is _false_.

Example 1:

Input: restaurants = [[1,4,1,40,10],[2,8,0,50,5],[3,8,1,30,4],[4,10,0,10,3],[5,1,1,15,1]], veganFriendly = 1, maxPrice = 50, maxDistance = 10 **Output:** [3,1,5] **Explanation:** The restaurants are: Restaurant 1 [id=1, rating=4, veganFriendly=1, price=40, distance=10] Restaurant 2 [id=2, rating=8, veganFriendly=0, price=50, distance=5] Restaurant 3 [id=3, rating=8, veganFriendly=1, price=30, distance=4] Restaurant 4 [id=4, rating=10, veganFriendly=0, price=10, distance=3] Restaurant 5 [id=5, rating=1, veganFriendly=1, price=15, distance=1] After filter restaurants with veganFriendly = 1, maxPrice = 50 and maxDistance = 10 we have restaurant 3, restaurant 1 and restaurant 5 (ordered by rating from highest to lowest).

Example 2:

Input: restaurants = [[1,4,1,40,10],[2,8,0,50,5],[3,8,1,30,4],[4,10,0,10,3],[5,1,1,15,1]], veganFriendly = 0, maxPrice = 50, maxDistance = 10 **Output:** [4,3,2,1,5] **Explanation:** The restaurants are the same as in example 1, but in this case the filter veganFriendly = 0, therefore all restaurants are considered.

Example 3:

Input: restaurants = [[1,4,1,40,10],[2,8,0,50,5],[3,8,1,30,4],[4,10,0,10,3],[5,1,1,15,1]], veganFriendly = 0, maxPrice = 30, maxDistance = 3 **Output:** [4,5]

Constraints:

* `1 <= restaurants.length <= 10^4` * `restaurants[i].length == 5` * `1 <= idi, ratingi, pricei, distancei <= 10^5` * `1 <= maxPrice, maxDistance <= 10^5` * `veganFriendlyi` and `veganFriendly` are 0 or 1. * All `idi` are distinct.

Code Snippets

C++:

```
class Solution {
public:
vector<int> filterRestaurants(vector<vector<int>>& restaurants, int
veganFriendly, int maxPrice, int maxDistance) {

}
};
```

Java:

```
class Solution {
public List<Integer> filterRestaurants(int[][] restaurants, int
veganFriendly, int maxPrice, int maxDistance) {

}
}
```

Python3:

```
class Solution:
def filterRestaurants(self, restaurants: List[List[int]], veganFriendly: int,
maxPrice: int, maxDistance: int) -> List[int]:
```