

## 1257. Smallest Common Region

Medium 108 QP 14 Add to List Share

You are given some lists of regions, where the first region of each list includes all other regions in that list.

Naturally, if a region  $x$  contains another region  $y$  then  $x$  is bigger than  $y$ . Also by definition a region  $X$  contains itself.

Given two regions  $\text{region1}$ ,  $\text{region2}$ , find out the **smallest** region that contains both of them.

If you are given regions  $r_1$ ,  $r_2$  and  $r_3$  such that  $r_1$  includes  $r_3$ , it is guaranteed there is no  $r_2$  such that  $r_2$  includes  $r_3$ .

It's guaranteed the smallest region exists.

### Example 1:

Input:

```
regions = [["Earth", "North America", "South America"],  
           ["North America", "United States", "Canada"],  
           ["United States", "New York", "Boston"],  
           ["Canada", "Ontario", "Quebec"],  
           ["South America", "Brazil"]],  
region1 = "Quebec",  
region2 = "New York"  
Output: "North America"
```

```
1 class Solution(object):  
2     def findSmallestRegion(self, regions, region1, region2):  
3         """  
4             :type regions: List[List[str]]  
5             :type region1: str  
6             :type region2: str  
7             :rtype: str  
8         """  
9
```

### Constraints:

- $2 \leq \text{regions.length} \leq 10^4$
- $\text{region1} \neq \text{region2}$
- All strings consist of English letters and spaces with at most 20 letters.

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Seen this question in a real interview before?

Yes

No