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## Python simple solution



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★ 656

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16 Find the direct parent of each region.

chain is all the ancestors of region1.

Go from the lowest parent of region2, move upward, until it joins chain.

```
class Solution:
    def findSmallestRegion(self, regions: List[List[str]], region1: str, region2: str) -> str:
        parent = {}
        for region in regions:
            for i in range(1, len(region)):
                parent[region[i]] = region[0]
        chain = set([region1])
        while region1 in parent:
            region1 = parent[region1]
            chain.add(region1)
        while region2 not in chain:
            region2 = parent[region2]
        return region2
```

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SunnyLeetCode

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February 10, 2020 9:29 AM

Great solution.