

## Problem Challenge 1

We'll cover the following

- Reconstructing a Sequence (hard)
- Try it yourself

### Reconstructing a Sequence (hard) #

Given a sequence `originalSeq` and an array of sequences, write a method to find if `originalSeq` can be uniquely reconstructed from the array of sequences.

Unique reconstruction means that we need to find if `originalSeq` is the only sequence such that all sequences in the array are subsequences of it.

Example 1:

```
Input: originalSeq: [1, 2, 3, 4], seqs: [[1, 2], [2, 3], [3, 4]]
Output: true
Explanation: The sequences [1, 2], [2, 3], and [3, 4] can uniquely reconstruct
[1, 2, 3, 4], in other words, all the given sequences uniquely define the order of numbers
in the 'originalSeq'.
```

Example 2:


```
Input: originalSeq: [1, 2, 3, 4], seqs: [[1, 2], [2, 3], [2, 4]]
Output: false
Explanation: The sequences [1, 2], [2, 3], and [2, 4] cannot uniquely reconstruct
[1, 2, 3, 4]. There are two possible sequences we can construct from the given sequences:
1) [1, 2, 3, 4]
2) [1, 2, 4, 3]
```


Example 3:


```
Input: originalSeq: [3, 1, 4, 2, 5], seqs: [[3, 1, 5], [1, 4, 2, 5]]
Output: true
Explanation: The sequences [3, 1, 5] and [1, 4, 2, 5] can uniquely reconstruct
[3, 1, 4, 2, 5].
```


### Try it yourself #

Try solving this question here:

 Java

 Python3

 JS


 C++

```
1 import java.util.*;
2
3 class SequenceReconstruction {
4     public static boolean canConstruct(int[] originalSeq, int[][] sequences) {
5         // TODO: Write your code here
6         return false;
7     }
8
9     public static void main(String[] args) {
10        boolean result = SequenceReconstruction.canConstruct(new int[] { 1, 2, 3, 4 },
11            new int[][] { new int[] { 1, 2 }, new int[] { 2, 3 }, new int[] { 3, 4 } });
12        System.out.println("Can we uniquely construct the sequence: " + result);
13
14        result = SequenceReconstruction.canConstruct(new int[] { 1, 2, 3, 4 },
15            new int[][] { new int[] { 1, 2 }, new int[] { 2, 3 }, new int[] { 2, 4 } });
16        System.out.println("Can we uniquely construct the sequence: " + result);
17
18        result = SequenceReconstruction.canConstruct(new int[] { 3, 1, 4, 2, 5 },
19            new int[][] { new int[] { 3, 1, 5 }, new int[] { 1, 4, 2, 5 } });
20        System.out.println("Can we uniquely construct the sequence: " + result);
21    }
22 }
```

Run

Save

Reset





Alien Dictionary (hard)



Solution Review: Problem Challenge 1



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