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332. Reconstruct Itinerary

Medium 1278 798 Add to

Given a list of airline tickets represented by pairs of departure and arrival airports `[from, to]`, reconstruct the itinerary in order. All of the tickets belong to a man who departs from `JFK`. Thus, the itinerary must begin with `JFK`.

Note:

1. If there are multiple valid itineraries, you should return the itinerary that has the smallest lexical order when read as a single string. For example, the itinerary `["JFK", "LGA"]` has a smaller lexical order than `["JFK", "LGB"]`.
2. All airports are represented by three capital letters (IATA code).
3. You may assume all tickets form at least one valid itinerary.

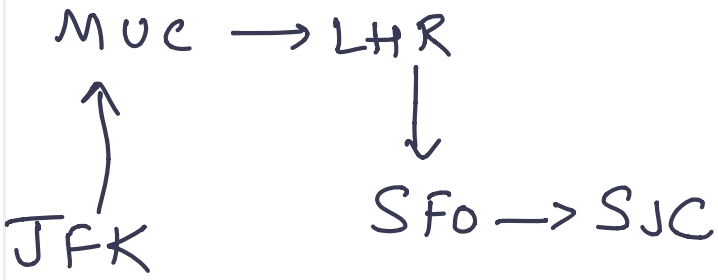
Example 1:

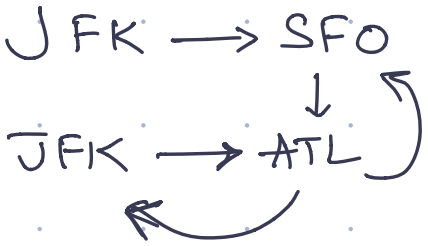
```
Input: [["MUC", "LHR"], ["JFK", "MUC"], ["SFO", "SJC"], ["LHR", "SFO"]]
Output: ["JFK", "MUC", "LHR", "SFO", "SJC"]
```

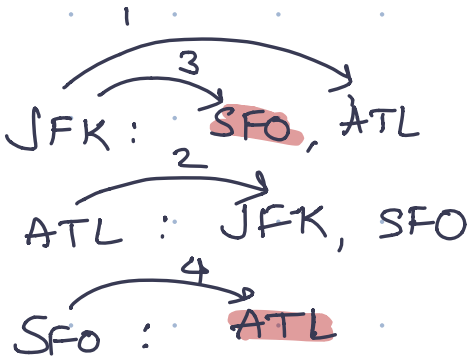
Example 2:

```
Input: [["JFK","SFO"], ["JFK","ATL"],["SFO","ATL"], ["ATL","JFK"],["ATL","SFO"]]
```

```
1 ▾ class Solution {
2   public:
3 ▾     vector<string> findItinerary(vector<v
    tickets) {
4
5       }
6   };
```







JFK, ATL, JFK,

SFO, ATL, SFO

JFK : [ATL, SFO]

ATL : [JFK, SFO]

SFO : [ATL]

Eulerian path

A trail in a finite graph that visits every edge exactly once.

Eulerian cycle

A trail that starts and ends at the same vertex.

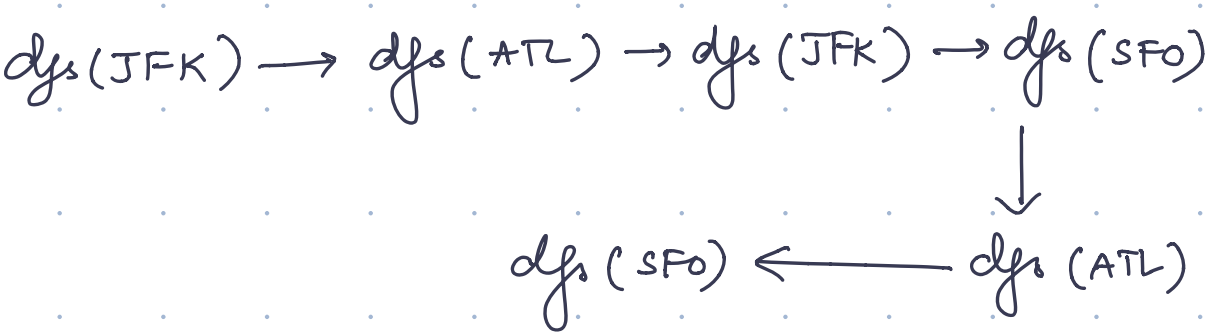
1. Sort the airports in reverse order.

origin

JFK : [SFO, ATL] next dest — ATL

SFO : [ATL]

ATL : [SFO, JFK]



res = [SFO, ATL, SFO, JFK, ATL, JFK]

reverse the res.