332. Reconstruct Itinerary

题目描述：https://leetcode.com/problems/reconstruct-itinerary/

> 找到字典序排序最小的航线。把所有城市都加进去哦
> 例如：
>
> ```
> Example 1:
> tickets = [["MUC", "LHR"], ["JFK", "MUC"], ["SFO", "SJC"], ["LHR", "SFO"]]
> Return ["JFK", "MUC", "LHR", "SFO", "SJC"].
> Example 2:
> tickets = [["JFK","SFO"],["JFK","ATL"],["SFO","ATL"],["ATL","JFK"],["ATL","SFO
> "]]
> Return ["JFK","ATL","JFK","SFO","ATL","SFO"].
> Another possible reconstruction is
> ["JFK","SFO","ATL","JFK","ATL","SFO"]. But it is larger in lexical order.
> ```

解题思路：

类似拓扑排序。

代码：

```
class Solution {
public:
    vector<string> findItinerary(vector<pair<string, string>> tickets) {
        unordered_map<string, multiset<string> > graph;
        vector<string> res;
        for(auto item: tickets) {
            graph[item.first].insert(item.second);
        }
        stack<string> s;
        s.push("JFK");
        while(!s.empty()) {
            string sc = s.top();
            if(graph.find(sc) == graph.end() || graph[sc].empty()) {
                res.push_back(sc);
                s.pop();
            }
            else {
                s.push(*(graph[sc].begin()));
                graph[sc].erase(graph[sc].begin());
            }
        }
        reverse(res.begin(), res.end());
        return res;
    }
};
```