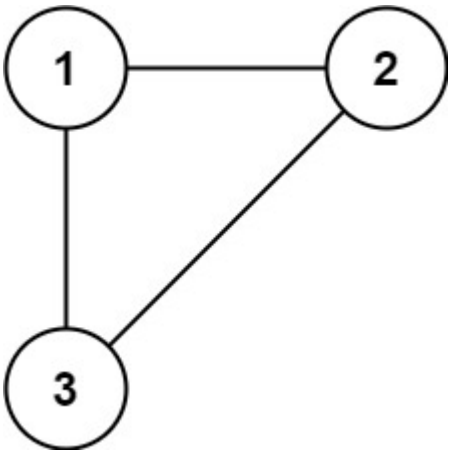
684. Redundant Connection

In this problem, a tree is an undirected graph that is connected and has no cycles.

You are given a graph that started as a tree with `n` nodes labeled from `1` to `n`, with one additional edge added. The added edge has two different vertices chosen from `1` to `n`, and was not an edge that already existed. The graph is represented as an array `edges` of length `n` where `edges[i] = [ai, bi]` indicates that there is an edge between nodes `ai` and `bi` in the graph.

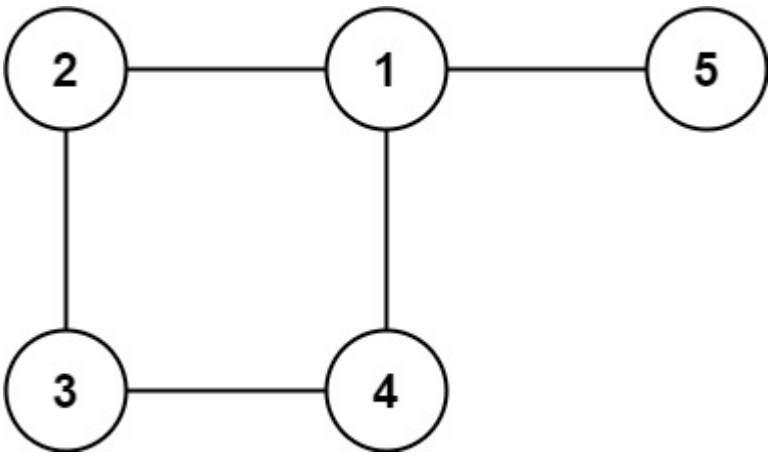
Return *an edge that can be removed so that the resulting graph is a tree of `n` nodes*. If there are multiple answers, return the answer that occurs last in the input.

Example 1:




```
Input: edges = [[1,2],[1,3],[2,3]]
Output: [2,3]
```

Example 2:



```
Input: edges = [[1,2],[2,3],[3,4],[1,4],[1,5]]
Output: [1,4]
```

```
def findRedundantConnection(self, edges: List[List[int]]) -> List[int]:
        parent = [i for i in range(len(edges)+1)]
        rank = [1]*(len(edges)+1)

        for x,y in edges:
            lx = self.find(parent,x)
            ly = self.find(parent,y)

            if lx!=ly:
                if rank[lx]>rank[ly]:
                    parent[ly]=lx
                elif rank[lx]<rank[ly]:
                    parent[lx]=ly
                else:
                    parent[ly] = lx
                    rank[lx] = rank[lx]+1
            else:
                return [x,y]

    def find(self,parent,x):
        if parent[x]==x:
            return x
        temp = self.find(parent,parent[x])
        parent[x] = temp
        return temp
```