

Test cases (including the edge cases):
Input: [[1,2,4],[0,3],[0,3,4],[1,2],[1,2],[6],[5,7],[6],[]], 9
Output: 3
Input: [], 0
Output: 0
Input: [], [], [], [], [], 4
Output: 4
Input: [[1,2], [0,2], [0,1]], 3
Output: 1

time complexity:
 $O(N + E)$ // E is the number of edges
space complexity:
 $O(N)$ + call stack

```
public int countConnectComponents
(List<List<Integer>> adjList, int N) {
    int cnt = 0;
    boolean[] visited = new boolean[N];
    for (int i = 0; i < N; i++) {
        if (!visited[i]) {
            cnt++;
            dfs(adjList, visited, i);
        }
    }
    return cnt;
}
```

```
// use depth-first-search to travel all the nodes that
// have a path to u
void dfs(List<List<Integer>> adjList, boolean[]
visited, int u) {
    visited[u] = true;
    for (int v : adjList.get(u)) {
        if (!visited[v])
            dfs(adjList, visited, v);
    }
}
```