**547. Number of Provinces (Connected Components)**

<https://leetcode.com/problems/number-of-provinces/>

1. **Listen**

**Problem Statement:**

You have a graph of n nodes. You are given an integer n and an array edges where edges[i] = [a,b] indicates that there is an edge between a and b in the graph.

Return the number of connected components in the graph.

A picture containing diagram

Description automatically generated

**Input:**

An integer ***n*** = the number of vertices in the set V

An array ***edges*** = the edges in set E

edges[i] = [a,b] indicates that there is an edge between a and b in the graph.

A graph is **connected** if each unique vertex is reachable from any other vertex.

In a connected graph, you can get from any vertex to any other vertex by following a path.

Notice that a connected graph does not necessarily have an edge between every pair of vertices.

A **connected component** of an undirected graph is a subgraph in the graph that is connected

Note that there can be multiple **disjoint** connected components in one graph.

**Goal:**

**Return:**

Return the number of connected components in the graph.

1. **Examples**

Example 1:

**Constraints:**

**Test Cases:**

1. **Brute Force**
2. **Optimize**
3. **Walkthrough**
4. **Implement**
5. **Test**