Number of Connected Components in an Undirected Graph

Try to solve the Number of Connected Components in an Undirected Graph problem.

We'll cover the following

Statement

For a given integer, n, and an array, `edges`, return the number of connected components in a graph containing n nodes.

> **Note:** The array $edges_i = [a_i, b_i]$ indicates that there's an edge between a_i and b_i in the graph.

Constraints:

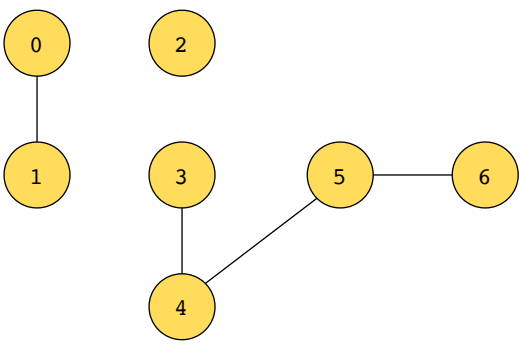
- $1 \leq n \leq 2000$
- $1 \leq$ `edges.length` ≤ 5000
- `edges[i].length` $== 2$
- $0 \leq a_i \leq b_i < n$
- $a_i \; ! = b_i$
- There are no repeated edges.

Examples

Sample example 1

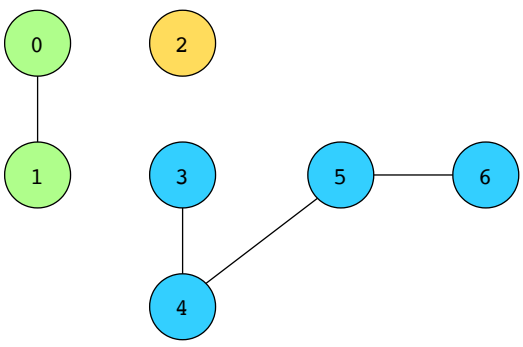
Input

n = 7
edges = [[0, 1], [3, 4], [4, 5], [5, 6]]



Output

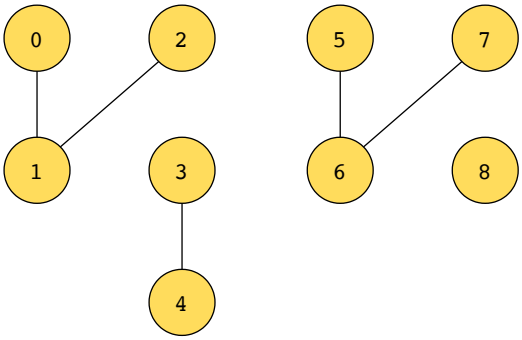
The number of connected components is **3**.



Sample example 2

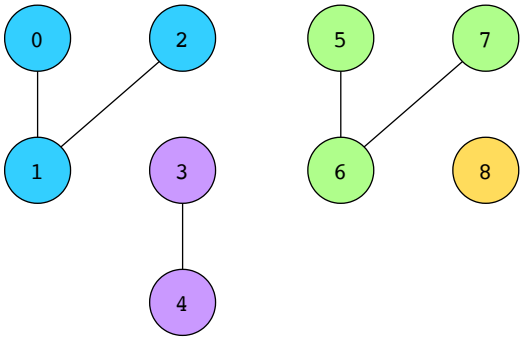
Input

n = 9
edges = [[0, 1], [1, 2], [3, 4], [5, 6], [6, 7]]



Output

The number of connected components is **4**.



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Understand the problem

Let's take a moment to make sure you've correctly understood the problem. The quiz below helps you check if you're solving the correct problem:

Number of Connected Components in an Undirected Graph

1 What could be the number of connected components if the following values are given as input?

n = 5
edges = [[0, 1], [3, 4]]

A) 2

B) 3

C) 1

Submit Answer

Question 1 of 3
0 attempted

Reset Quiz

Try it yourself

Implement your solution in the following coding playground:

usercode > ComponentsCount.java

```java
import java.util.*;
class ComponentsCount {
    public static int componentsCountInGraph(int n, int[][] edges) {
        // Your code will replace the placeholder return statement.
        return -1;
```

Powered by AI

Submit

Test Cases | Results

Case 1 | Case 2 | Case 3

Input #1

5

Input #2

[[0,1],[1,2],[3,4]]

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Need a Hint?

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Pacific Atlantic Water ...

Mark as Completed