

A group of people, mostly young adults, are working in a modern office or coding bootcamp environment. They are seated at long white tables, each with a laptop. Some are looking at their screens, while others are talking or looking towards the camera. The room has large windows on the left, industrial-style pendant lights hanging from the ceiling, and whiteboards in the background filled with code. The overall atmosphere is collaborative and focused.

ECE2810J DATA STRUCTURES AND ALGORITHMS Code Camp

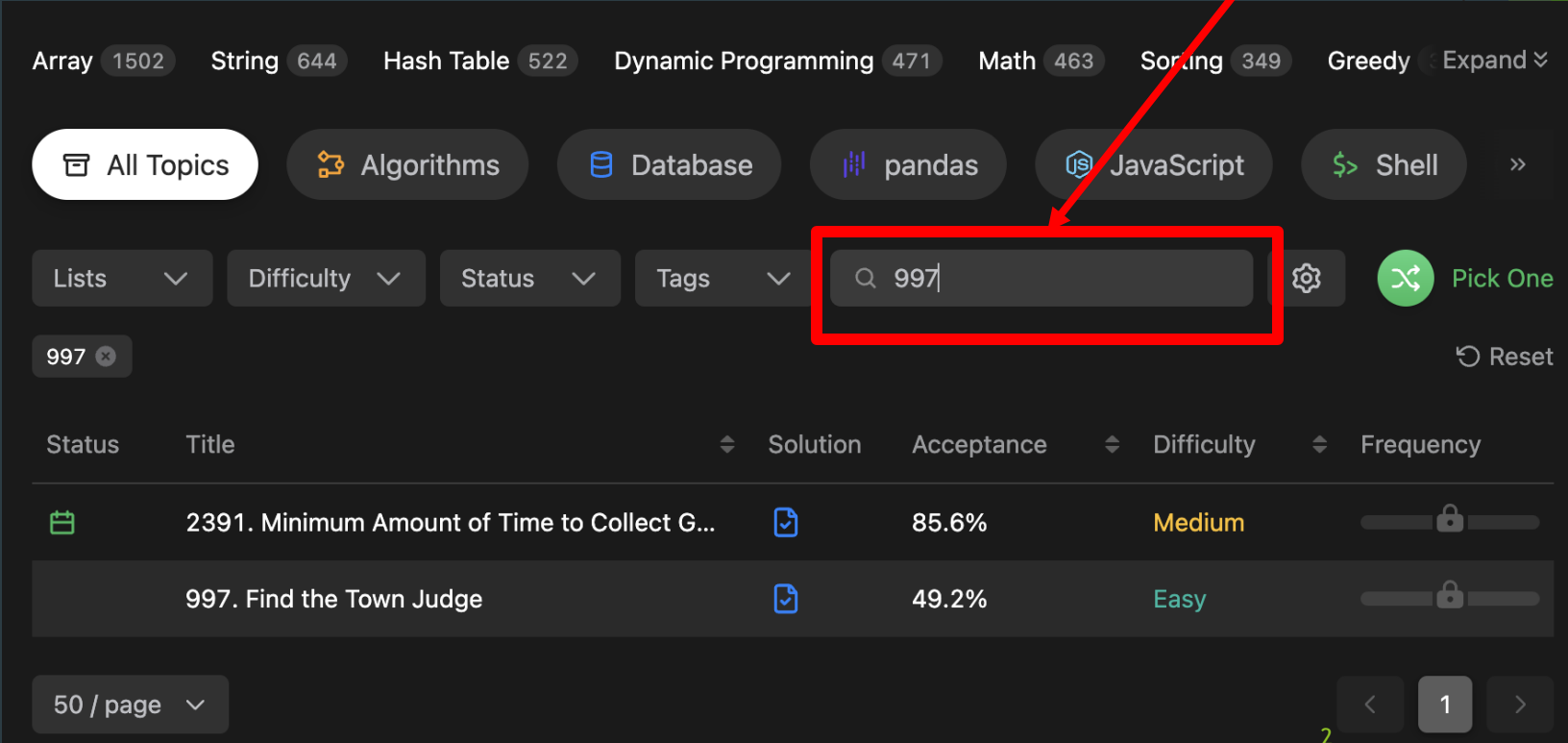
Learning Objectives:

- Exercise on – Graph - Graph Search

Exercise 1

Problem 997. Find the Town Judge

Search



Array 1502 String 644 Hash Table 522 Dynamic Programming 471 Math 463 Sorting 349 Greedy Expand

All Topics Algorithms Database pandas JavaScript Shell >>

Lists Difficulty Status Tags 997

997

Pick One Reset

Status	Title	Solution	Acceptance	Difficulty	Frequency
	2391. Minimum Amount of Time to Collect G...		85.6%	Medium	
	997. Find the Town Judge		49.2%	Easy	

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Exercise 2

Problem 1791. Find Center of Star Graph

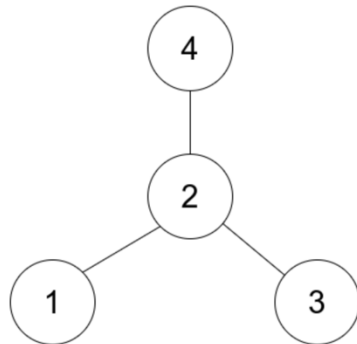
1791. Find Center of Star Graph

Easy Topics Companies Hint

There is an undirected **star** graph consisting of n nodes labeled from 1 to n . A star graph is a graph where there is one **center** node and **exactly** $n - 1$ edges that connect the center node with every other node.

You are given a 2D integer array `edges` where each `edges[i] = [ui, vi]` indicates that there is an edge between the nodes `ui` and `vi`. Return the center of the given star graph.

Example 1:



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

Output: 2

Explanation: As shown in the figure above, node 2 is connected to every other node, so 2 is the center.

Example 2:

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

Output: 1

Exercise 3

LeetCode: Problem 1926. Nearest Exit from Entrance in Maze

[Description](#) | [Editorial](#) | [Solutions](#) | [Submissions](#)

1926. Nearest Exit from Entrance in Maze

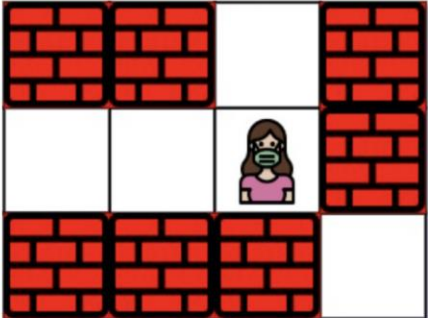
Medium | [Topics](#) | [Companies](#) | [Hint](#)

You are given an $m \times n$ matrix `maze` (**0-indexed**) with empty cells (represented as `'.'`) and walls (represented as `'+'`). You are also given the `entrance` of the maze, where `entrance = [entrance_row, entrance_col]` denotes the row and column of the cell you are initially standing at.

In one step, you can move one cell **up**, **down**, **left**, or **right**. You cannot step into a cell with a wall, and you cannot step outside the maze. Your goal is to find the **nearest exit** from the `entrance`. An **exit** is defined as an **empty cell** that is at the **border** of the `maze`. The `entrance` **does not count** as an exit.

Return the **number of steps** in the shortest path from the `entrance` to the nearest exit, or `-1` if no such path exists.

Example 1:



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Exercise 4

LeetCode: Problem 116. Populating Next Right Pointers in Each Node

Search

Array 1502 String 644 Hash Table 522 Dynamic Programming 471 Math 463 Sorting 349 Greedy Expand

All Topics Algorithms Database pandas JavaScript Shell >>

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Pick One Reset

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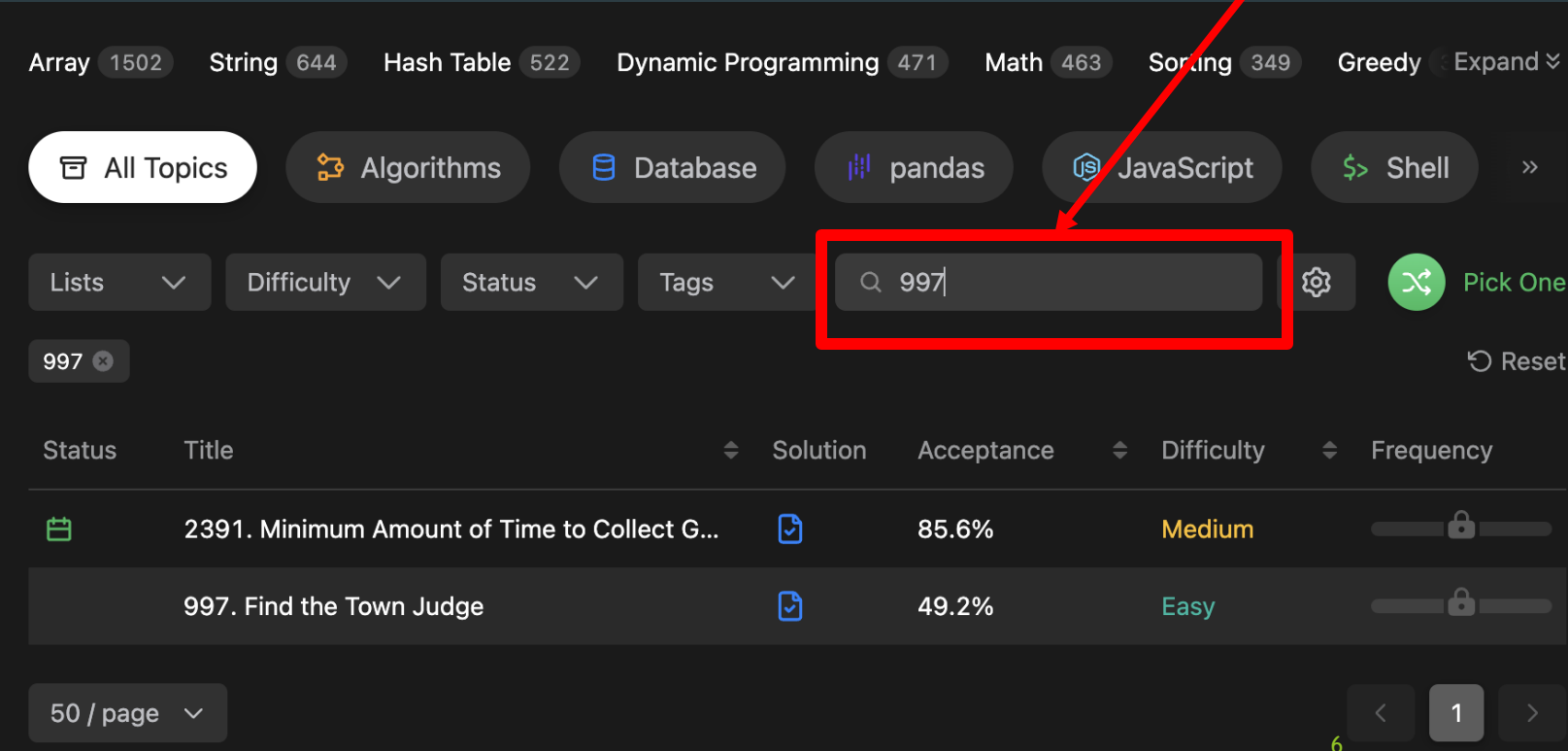
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Exercise 5

LeetCode: Problem 200. Number of Islands

Search



The screenshot shows the LeetCode search results for problem 997. The search bar is highlighted with a red rectangle, and a red arrow points from the word "Search" to it. Below the search bar, a table lists search results for problem 997.

Status	Title	Solution	Acceptance	Difficulty	Frequency
	2391. Minimum Amount of Time to Collect G...		85.6%	Medium	
	997. Find the Town Judge		49.2%	Easy	

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Exercise 6

LeetCode: Shortest Path in Binary Matrix

1091. Shortest Path in Binary Matrix

Medium

Topics

Companies

Hint

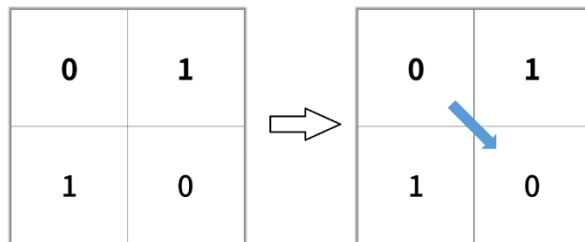
Given an $n \times n$ binary matrix `grid`, return the length of the shortest **clear path** in the matrix. If there is no clear path, return `-1`.

A **clear path** in a binary matrix is a path from the **top-left** cell (i.e., $(0, 0)$) to the **bottom-right** cell (i.e., $(n - 1, n - 1)$) such that:

- All the visited cells of the path are `0`.
- All the adjacent cells of the path are **8-directionally** connected (i.e., they are different and they share an edge or a corner).

The **length of a clear path** is the number of visited cells of this path.

Example 1:



Input: `grid = [[0,1],[1,0]]`

Output: 2