

## AP ASSIGNMENT – SHIVAM GAUTAM – 22BCS12184

### 1. Number of Islands –

The screenshot shows a LeetCode submission for the 'Number of Islands' problem. The submission is accepted, with 49 out of 49 test cases passed. The user 'shivam\_791' submitted it on April 06, 2025, at 17:10. The runtime is 2 ms, beating 99.83% of other submissions. The memory usage is 50.16 MB, beating 28.84% of other submissions. The code is written in Java and is 48 lines long. The test case shows a grid of 1s and 0s, and the output is 1.

Accepted 49 / 49 testcases passed  
shivam\_791 submitted at Apr 06, 2025 17:10

Runtime: 2 ms | Beats: 99.83%  
Memory: 50.16 MB | Beats: 28.84%

Accepted Runtime: 0 ms

Case 1 Case 2

Input

grid =  
[[["1","1","1","1","0"],["1","1","0","1","0"],["1","1","0","0","0"],["0","0","0","0","0"]]

Output

1

Expected

### 2. Word Ladder –

The screenshot shows a LeetCode submission for the 'Word Ladder' problem. The submission is accepted, with 51 out of 51 test cases passed. The user 'shivam\_791' submitted it on April 06, 2025, at 17:14. The runtime is 74 ms, beating 66.10% of other submissions. The memory usage is 46.67 MB, beating 57.68% of other submissions. The code is written in Java and is 47 lines long. The test case shows 'beginWord' as 'hit', 'endWord' as 'cog', and a wordList containing 'hot', 'dot', 'dog', 'lot', 'log', and 'cog'.

Accepted 51 / 51 testcases passed  
shivam\_791 submitted at Apr 06, 2025 17:14

Runtime: 74 ms | Beats: 66.10%  
Memory: 46.67 MB | Beats: 57.68%

Accepted Runtime: 0 ms

Case 1 Case 2

Input

beginWord =  
"hit"

endWord =  
"cog"

wordList =  
["hot","dot","dog","lot","log","cog"]

### 3. Number of Provinces –

The screenshot shows the LeetCode submission page for the problem "Number of Provinces" (ID 1598476396). The submission is by user "shivam\_791" and is marked as "Accepted" with 114 / 114 testcases passed. The submission time is Apr 06, 2025 17:17. The runtime is 1 ms, beating 88.60% of submissions. The memory usage is 47.90 MB, beating 56.10% of submissions. A bar chart shows the user's performance relative to others. The code is written in Java. The test case input is a 3x3 matrix: `[[1, 1, 0], [1, 1, 0], [0, 0, 1]]`. The test result shows "isConnected =" and the output is 2.

Accepted 114 / 114 testcases passed  
shivam\_791 submitted at Apr 06, 2025 17:17

Runtime: 1 ms | Beats 88.60%  
Memory: 47.90 MB | Beats 56.10%

Testcase 1: `isConnected = [[1, 1, 0], [1, 1, 0], [0, 0, 1]]`

### 4. Longest Increasing Path-

The screenshot shows the LeetCode submission page for the problem "Longest Increasing Path in a Matrix" (ID 1598477857). The submission is by user "shivam\_791" and is marked as "Accepted" with 139 / 139 testcases passed. The submission time is Apr 06, 2025 17:19. The runtime is 8 ms, beating 87.36% of submissions. The memory usage is 44.97 MB, beating 78.91% of submissions. A bar chart shows the user's performance relative to others. The code is written in Java. The test case input is a 3x3 matrix: `[[9, 9, 4], [6, 6, 8], [2, 1, 1]]`. The test result shows "Accepted" with runtime 0 ms. The input is the matrix, and the output is 4.

Accepted 139 / 139 testcases passed  
shivam\_791 submitted at Apr 06, 2025 17:19

Runtime: 8 ms | Beats 87.36%  
Memory: 44.97 MB | Beats 78.91%

Testcase 1: `matrix = [[9, 9, 4], [6, 6, 8], [2, 1, 1]]`

Output: 4