Snakes And Ladders LeetCode

You are given an $n \times n$ integer matrix board where the cells are labeled from 1 to n^2 in a <u>Boustrophedon style</u> starting from the bottom left of the board (i.e. board[n - 1][0]) and alternating direction each row.

Example:

The Input Snake and Ladder board:

- -1 -1 -1 -1 -1
- -1 -1 -1 -1 -1
- -1 -1 -1 -1 -1
- -1 35 -1 -1 13 -1
- -1 -1 -1 -1 -1
- -1 15 -1 -1 -1

The Least Number of Moves required to move 36: 4

Approach 1: Function to find the least number of moves to reach the end of the snake and ladder board

• Explanation:

- The snakeAndLadders function initializes a queue and a visited matrix to track explored cells.
- It starts the BFS traversal from the first cell, and at each step, it explores the possible moves (1 to 6).
- The next cell is determined based on whether it's a regular cell or a Snake/Ladder. The visited matrix prevents revisiting cells.
- The traversal continues until the last cell is reached, and the number of moves is returned.
- If the last cell cannot be reached, the function returns -1.

• Time Complexity:

- The time complexity is O(N^2), where N is the size of the board. In the worst case, all cells may need to be visited.
- Each cell is visited at most once due to BFS traversal.

Space Complexity:

The space complexity is O(N^2) due to the visited matrix.