Assignment-2: Basics to Backtracking

Problems:

1. Print N-bit Binary Numbers having more 1s than 0s

Problem Link: https://www.geeksforgeeks.org/print-n-bit-binary-numbers-having-more-1s-than-0s/
Objective: Generate all binary strings of length N such that, at any prefix, the number of 1's is never less than the number of 0's.

2. Delete Middle Element of a Stack using Recursion

Problem Link: https://www.geeksforgeeks.org/delete-middle-element-of-a-stack/
Objective: Remove the middle element from a stack without using loops or extra data structures.

3. Letter Combinations of a Phone Number (LeetCode – 17)

Problem Link: https://leetcode.com/problems/letter-combinations-of-a-phone-number/
Objective: Given a string containing digits from 2–9, return all possible letter combinations that the number could represent.

4. 4. Combinations (LeetCode – 77)

Problem Link: https://leetcode.com/problems/combinations/
Objective: Given two integers n and k, return all possible combinations of k numbers out of the range 1…n.

5. 5. Letter Tile Possibilities (LeetCode – 1079)

Problem Link: https://leetcode.com/problems/letter-tile-possibilities/
Objective: Given a string of tiles with possible duplicate letters, return the number of possible non-empty sequences you can make.

Submission Instructions:

- Solve all problems using recursion or backtracking (as applicable).
- Avoid using inbuilt functions for combinations or permutations.
- Submit your solution files via the Google Form link.
- Deadline: 06 November 2025 (11:59 pm).

Note:

Make sure to dry-run each problem on paper before coding to understand the recursion tree.