**ASSIGNMENT - 2**

## Recursion & Backtracking

**0.** [**Fib Number and Factorial using tail recursion**](https://www.geeksforgeeks.org/program-for-nth-fibonacci-number/) **(Easy)**

1. [**Generate Parenthesis**](https://www.geeksforgeeks.org/print-all-combinations-of-balanced-parentheses/) **(Easy)**

**2.** [**Print all possible combinations of the mobile keyboard**](https://www.geeksforgeeks.org/find-possible-words-phone-digits/) **(Hard)**

3. [Count All possible Decoding](https://www.geeksforgeeks.org/count-possible-decodings-given-digit-sequence/) (Medium)

4. [Count Possible Paths](https://www.geeksforgeeks.org/count-possible-paths-top-left-bottom-right-nxm-matrix/) (Easy to Medium)

5. [Last Non-Zero Digit Factorial](https://www.geeksforgeeks.org/last-non-zero-digit-factorial/) (Hard)

**6.** [**Write a program to print all permutations of a given string**](https://www.geeksforgeeks.org/write-a-c-program-to-print-all-permutations-of-a-given-string/) **(Medium)**

**7.** [**Rat in a maze**](https://practice.geeksforgeeks.org/problems/rat-in-a-maze-problem/1) **(Medium)**

8. [Palindrome Partitioning](https://www.geeksforgeeks.org/given-a-string-print-all-possible-palindromic-partition/) (Hard)

9. Valid Sudoku (Hard)

10. [Subset Sum | Backtracking-4](https://www.geeksforgeeks.org/subset-sum-backtracking-4/) (Hard)

11. Combination Of Number (Medium)

**12. N Queens Problem (Hard) /Print all configurations of it as H/W.**

13. [Generate IP Address](https://www.geeksforgeeks.org/program-generate-possible-valid-ip-addresses-given-string/) (Medium)

14. Power subset (Medium)

15. H/W: [Largest Number after k swaps](https://www.geeksforgeeks.org/find-maximum-number-possible-by-doing-at-most-k-swaps/)

16. [The Knight's tour problem | Backtracking-1](https://www.geeksforgeeks.org/the-knights-tour-problem-backtracking-1/) (Hard)

**17.** [**Leetcode #62 Unique Paths**](https://leetcode.com/problems/unique-paths/) **(Medium)**

18.[Excel Sheet Column Title](https://leetcode.com/problems/excel-sheet-column-title/)

19. [Excel Sheet Column Number](https://leetcode.com/problems/excel-sheet-column-number/)

20. [Count Trailing Zeros in a factorial](https://www.geeksforgeeks.org/count-trailing-zeroes-factorial-number/)