### **L1 (Solving Recurrence Relations)**

1. Calculating Factorials
2. Calculating Fibonacci Numbers
3. Fast Exponentiation

### **L2 (Boolean Algebra and Bit Manipulation)**

1. <https://practice.geeksforgeeks.org/problems/help-the-old-man3848/1#_=_>
2. <https://www.codechef.com/problems/KCHAR/>
3. <https://www.codechef.com/INOIPRAC/problems/INOI1502/>
4. <https://www.hackerearth.com/practice/basic-programming/recursion/recursion-and-backtracking/practice-problems/algorithm/gcd-strings/>

### **L3 (Sets, Functions and Relations)**

1. <https://leetcode.com/problems/permutations/>
2. <https://leetcode.com/problems/subsets/>
3. <https://www.hackerearth.com/practice/basic-programming/recursion/recursion-and-backtracking/practice-problems/algorithm/n-queensrecursion-tutorial/>
4. <https://leetcode.com/problems/n-queens/>

### **L4 (Doubt Clearing Session)**

### **L5 (Proof Techniques)**

1. Travelling Salesman Problem
2. <https://practice.geeksforgeeks.org/problems/subset-sum-problem2014/1>
3. Print all possible paths from top left to bottom right of a n\*n matrix covering every cell exactly once.
4. <https://www.geeksforgeeks.org/word-break-problem-using-backtracking/>

### **L6 (Combinatorics 1 - Basics)**

1. <https://leetcode.com/problems/fibonacci-number/>
2. <https://leetcode.com/problems/coin-change/>
3. <https://www.codechef.com/ZCOPRAC/problems/ZCO14002>
4. <https://codeforces.com/problemset/problem/72/G>
5. <https://codeforces.com/problemset/problem/797/B>
6. <https://codeforces.com/problemset/problem/1282/B1>
7. <https://codeforces.com/problemset/problem/1472/C>
8. <https://codeforces.com/problemset/problem/166/E>

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### **L7 (Combinatorics 2 - Binomial Coefficients and Identities)**

1. <https://leetcode.com/problems/unique-paths/>
2. <https://leetcode.com/problems/unique-paths-ii/>
3. <https://leetcode.com/problems/longest-increasing-subsequence/>
4. <https://practice.geeksforgeeks.org/problems/longest-common-substring1452/1>
5. <https://leetcode.com/problems/longest-common-subsequence/>

### **L8 (Doubt Clearing Session)**

### **L9 (Combinatorics 3 - Stars and Bars, Pigeon Hole Principle, Inclusion-Exclusion)**

1. <https://practice.geeksforgeeks.org/problems/0-1-knapsack-problem0945/1>
2. <https://leetcode.com/problems/burst-balloons/>
3. <https://practice.geeksforgeeks.org/problems/matrix-chain-multiplication0303/1>
4. <https://www.codechef.com/problems/IEMCO5E>

### **L10 (Combinatorics 4 - Derangements, DP with Counting, and Problem Solving)**

1. <https://leetcode.com/problems/burst-balloons/>
2. <https://www.spoj.com/problems/MIXTURES/>
3. <https://atcoder.jp/contests/dp/tasks/dp_k>

### **L11 (Combinatorics 5 - Problem Solving)**

1. <https://codeforces.com/problemset/problem/1195/C>
2. <https://codeforces.com/problemset/problem/245/H>

### **L12 (Doubt Clearing Session)**

### **L13 (Probability I - Basics)**

1. <https://codeforces.com/problemset/problem/1221/D>
2. <https://codingcompetitions.withgoogle.com/kickstart/round/000000000019ffc7/00000000001d40bb>

### **L14 (Probability II - Linearity of Expectation)**

1. <https://leetcode.com/problems/maximum-sum-of-3-non-overlapping-subarrays/>
2. <https://www.codechef.com/COLE2019/problems/CLGAME/>
3. <https://codeforces.com/problemset/problem/1096/D>

### **L15 (Probability - III: DP with Probability and Problem Solving)**

1. <https://atcoder.jp/contests/dp/tasks/dp_j>
2. <https://atcoder.jp/contests/dp/tasks/dp_i>

### **L16 (Doubt Clearing Session)**

### **L17 (Mixed Problem Solving - 1)**

1. <https://codeforces.com/problemset/problem/846/F>
2. <https://codeforces.com/contest/1097/problem/D>
3. <https://codeforces.com/contest/888/problem/D>
4. <https://codeforces.com/problemset/problem/149/D> (hw)
5. <https://codeforces.com/problemset/problem/1444/B> (hw)
6. <https://codeforces.com/problemset/problem/908/D> (hw)

### **L18 (Mixed Problem Solving - 2)**

### **L19 (Mixed Problem Solving - 3)**

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