**DP - Intermediate**

1. 0-1 Knapsack DP  
   Problem: 1) <http://poj.org/problem?id=2184>  
   Problem 2) You have 10 different types of coin(1 t0 10), Each coin can be of 100000. Given **K<=1000000,** Answer Yes if K can be formed, answer **NO** Otherwise
2. Game:  
   1) Winning State or loosing State  
   2) Two player game   
   Problem 1:
3. Maximum Palindromic Subsequence (Lexicographical solution)
4. LCS (Length, Lexicographical solution, Number of distinct LCS)  
   Problem 1) **An Easy LCS** <http://lightoj.com/volume_showproblem.php?problem=1110>  
   Problem 2) **LCS Revisited** http://lightoj.com/volume\_showproblem.php?problem=1157
5. Digit DP:  
   Problem 1) <http://lightoj.com/volume_showproblem.php?problem=1140> (**How many Zeros**)  
   Problem 2) <http://lightoj.com/volume_showproblem.php?problem=1394> (Disable The wand)
6. Bitmask:  
   Tiling DP   
   Problem 1) <http://lightoj.com/volume_showproblem.php?problem=1145>   
   Problem 2) Problem H from this contest  
   <http://codeforces.com/gym/100291/attachments>
7. Loop Reduction & Memory Optimization  
   Problem 1) Dice I: <http://lightoj.com/volume_showproblem.php?problem=1145>
8. MCM  
   Problem 1) Cutting Sticks : UVA 10003,   
   Divide and conquer optimization  
   Knuth Optimization  
     
   <https://vjudge.net/contest/73745#status//D/0/>

Referrences:

1. <http://codeforces.com/blog/entry/8219>
2. <https://www.quora.com/What-is-divide-and-conquer-optimization-in-dynamic-programming>
3. maratona.ic.unicamp.br/MaratonaVerao2017/documents/dp.pdf
4. https://wiki.algo.is/Knuth's%20optimization