**Dynamic Programming**

Introduction to DP :-

* To find solution to a problem, we divide the problem into sub-problems, find answers to those sub-problems , combine them to get the original answer!
* That’s it!

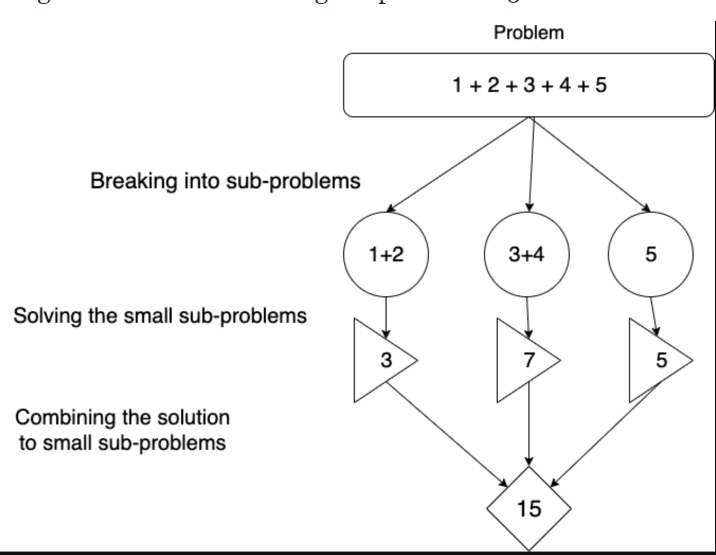
Example:- Say I ask you to calculate :- (1+2+3+4+5) You do this:-

1)Break it into sub-problems : (1+2)+(3+4)+(5)

2) Find answers to those sub-problems: (3) + (7) + (5)

3) Combine them to get the answer to the original problem : 15.

* dp[i] usually mean the best answer to the problem till the i’th index of the array.
* Obviously, final answer will be dp[n](where 'n' is the size of the array)
* We cannot calculate dp[n] directly, we first need to calculate dp[1],dp[2],… and combine their results to find the value of dp[n] :-

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