Divide & conquer

Problem is divided into sub problems repeatedly until the resulting subproblem are ~very to solve. ~~combine the~~

eg merge sort, quick sort, top down parser, fourier transb, binary search, strassens matrix

Divide — Problem in to sub problem

Conquer : Solve the subproblem recursively ~~used~~ (or) combining the subproblem to get final solution

___X___

greedy technique & Dynamic programming

both techniques used to solve optimization Problems. but they differ in approaches and strategies, main difference in making decisions

simple strategy to solve optimization
eazy to implement worries

greedy — make locally optimal choices leading to global optimum

dynamic — systamatically solve subproblem to guarantee optimal solution

greedy	dynami
✓ create local optial solution. leading to global.	guarantees optimal solution.
choices based on the current situation without considering future sequence.	Proble → Sub problem need memory to store intermediate results to avoid redundany wherease dynami consids all possible
hope for optimal solution	guarantee optimal solutio
ex 1) Huffman coding (compressing data) 2) Knapsack problem (packing most valuable data into a limited (capacity) 3) MST. 4) Travelli, Sales, graph coloring	eg Bellman ford floyd wearshall Shortest path GPS, graph theory, game theory, AI &ML
Greedy faster than dynamic	dynamic focus on solving problem efficient

greedy foay on solving problem quickly