26 September 2024 22:14

Placements

Algorithm

SCTP DAC

1. Introduction Algorithm.
2. Time complexity & Space Complexity.
3. Asymptotic Notation
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   - O
4. Divide & Conquer (DAC)
5. Dynamic programming.

Divide & Conquer:

1. Recursion.
2. Recurrence Relation.
3. Recurrence Relation Solving Numerical.
   - Substitution method
   - Recursive tree method
   - Master theorem.

Applications of Divide & Conquer:

1. Finding max & min element.
2. Power of an element.
3. Binary search.
4. Merge Sort
5. Quick Sort
6. Selection procedure
7. Strassen's Matrix multiplication.

Greedy Technique:

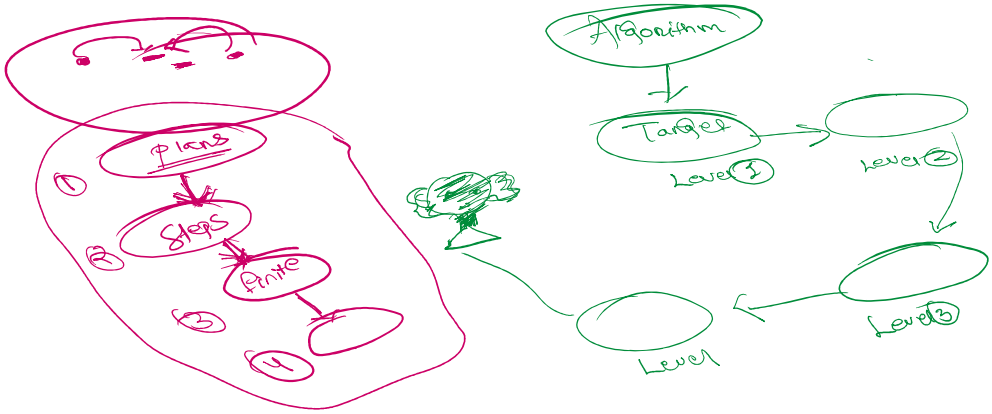
1. Job Sequencing with deadline.
2. Knapsack problem.
3. Huffman Coding.
4. Optimal merge patterns.

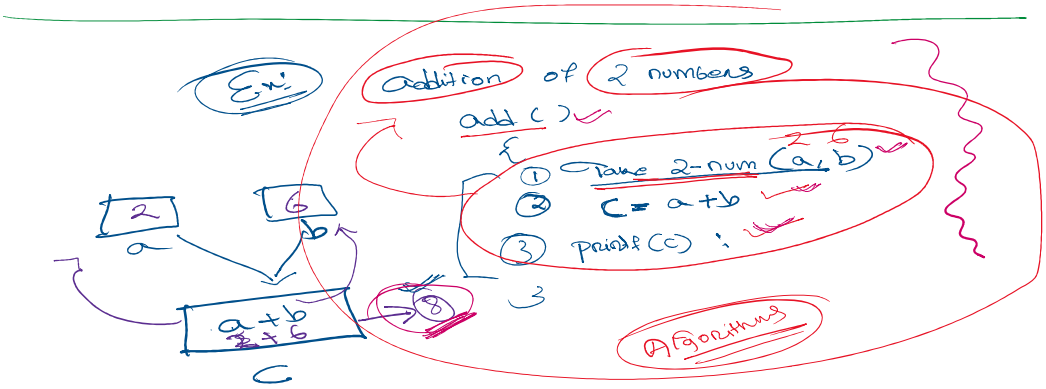
- Minimum Cost Spanning Tree (MCST)
  - prims algo
  - Kruskal algo.
- Single Source Shortest path
  - Dijkstra's algo.
  - Bellman ford algo
  - Breadth first Traversal (BFT)

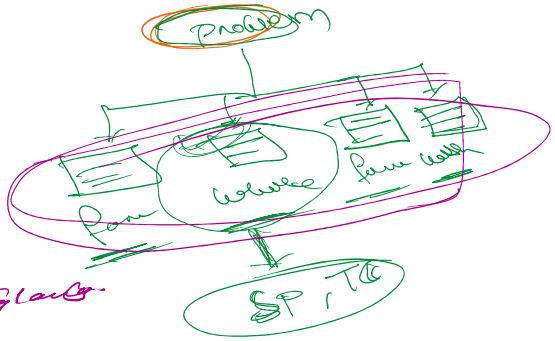
Dynamic programming:

1. Fibonacci Series.
2. Longest common Subsequence.
3. Matrix chain multiplication.
4. 0/1 knapsack.
5. Sum of Subsets
6. All pairs Shortest path.
7. Optimal Cost BST

Def: It is combination of sequence of finite steps to solve a particular problem.







Properties of Algorithm:

1. It should terminate after finite steps.
2. It should produce atleast 1 output.
3. It is Independent of the programming language.

(B1) Unambiguous (Every statements)

Steps required to design algorithms: