

Dynamic Programming Technique

*Discussion on recursive, iterative and memorization techniques using Fibonacci numbers
example in terms of run time

Optimization Problems

1. Coin Row Problem
2. Coin change Problem.

Any chapter 8: 8.1

Dynamic Programming Technique

3. Rod Cutting Problem

Cormen chapter 14: 14.1

4. Knapsack Problem*

Any chapter 8: 8.2

5. Matrix chain Multiplication

Cormen chapter 14: 14.2

Greedy Technique

1. Huffman Codes and its Analysis

Cormen chapter 15: 15.2 15.3

*Overview of Graph Trees and Spanning Trees

1. Graph Algorithms
 - a. Breadth First Search
 - b. Depth First Search

Cormen chapter 20: 20.2 20.3

2. Minimum Spanning Tree
 - a. Prim's Algorithm and its Analysis
 - b. Kruskal Algorithm and its Analysis

Cormen chapter 21: 21.2

3. Single Source Shortest Path (Dijkstra Algorithm)*

Cormen chapter 22: 22.3