

## PC Vertex Cover

Approximation algorithms for Partial Capacitated Vertex Cover

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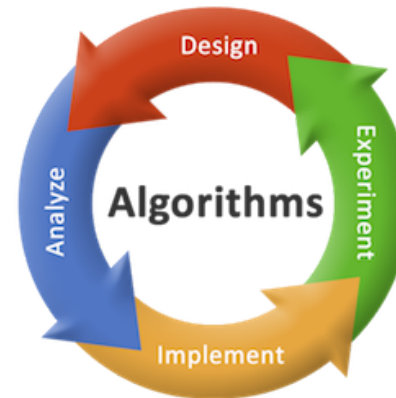
## DAA Tutorial

Our DAA Tutorial is designed for beginners and professionals both.

Our DAA Tutorial includes all topics of algorithm, asymptotic analysis, algorithm control structure, recurrence, master method, recursion tree method, simple sorting algorithm, bubble sort, selection sort, insertion sort, divide and conquer, binary search, merge sort, counting sort, lower bound theory etc.

## What is Algorithm?

A finite set of instruction that specifies a sequence of operation is to be carried out in order to solve a specific problem or class of problems is called an Algorithm.



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## Why study Algorithm?

As the speed of processor increases, performance is frequently said to be less central than other software quality characteristics (e.g. security, extensibility, reusability etc.). However, large problem sizes are commonplace in the area of computational science, which makes performance a very important factor. This is because longer computation time, to name a few mean slower results, less through research and higher cost of computation (if buying CPU Hours from an external party). The study of Algorithm, therefore, gives us a language to express performance as a function of problem size.

## DAA Tutorial Index

**DAA Tutorial**

**Binary Search Trees**

**Shortest Path**



- DAA Tutorial
- DAA Algorithm
- Need of Algorithm
- Complexity of Algorithm
- Algorithm Design Techniques

### Asymptotic Analysis

- Asymptotic Analysis
- Analyzing Algorithm Control Structure

### Recurrence

- Recurrence Relation
- Recursion Tree Method
- Master Method

### Analysis of Sorting

- Bubble Sort
- Selection Sort
- Insertion Sort

### Divide and Conquer

- Introduction
- Max-Min Problem
- Binary Search
- Merge Sort
- Tower of Hanoi

### Sorting

- Binary Heap
- Quick Sort
- Stable Sorting

- Binary Search Trees

### Red Black Tree

- Red Black Tree

### Dynamic Programming

- Introduction
- Divide & Conquer Method vs Dynamic Programming
- Fibonacci sequence
- Matrix Chain Multiplication
- Matrix Chain Multiplication Example
- Matrix Chain Multiplication Algorithm
- Longest Common Sequence
- Longest Common Sequence Algorithm
- 0/1 Knapsack Problem

### Greedy Algorithm

- Introduction
- Activity Selection Problem
- Fractional Knapsack problem
- Huffman Codes
- Algorithm of Huffman Code
- Activity or Task Scheduling Problem
- Travelling Sales Person Problem
- Dynamic Programming vs Greedy Method

### Backtracking

- Backtracking Introduction

- Introduction
- Negative Weight Edges
- Representing Shortest Path
- Relaxation
- Dijkstra's Algorithm
- Bellman-Ford Algorithm
- Single Source Shortest Path in a directed Acyclic Graphs

### All-Pairs Shortest Paths

- Introduction
- Floyd-Warshall Algorithm
- Johnson's Algorithm

### Maximum Flow

- Flow networks and Flows
- Network Flow Problems
- Ford Fulkerson Algorithm
- Maximum bipartite matching

### Sorting Networks

- Comparison Network
- Bitonic Sorting Network
- Merging Network

### Complexity Theory

- Complexity Classes
- Polynomial Time Verification
- NP-Completeness
- Circuit Satisfiability
- 3-CNF Satisfiability
- Clique Problem



**Lower Bound Theory**

- Lower bound Theory

**Sorting in Linear Time**

- Linear Time
- Counting Sort
- Bucket Sort
- Radix Sort

**Hashing**

- Hashing
- Hash Tables
- Hashing Method
- Open Addressing Techniques
- Hash Function

- Recursive Maze Algorithm
- Hamiltonian Circuit Problems
- Subset Sum Problems
- N Queens Problems

**MST**

- MST Introduction
- MST Applications
- Kruskal's Algorithm
- Prim's Algorithm

- Vertex Cover Problem
- Subset-Sum Problem

**Approximation Algorithm**

- Introduction
- Vertex Cover
- Travelling Salesman Problem

**String Matching**

- Introduction
- Naive String Matching Algorithm
- Rabin-Karp-Algorithm
- String Matching with Finite Automata
- Knuth-Morris-Pratt Algorithm
- Boyer-Moore Algorithm



## Prerequisite

Before learning DAA Tutorial, you must have the basic knowledge of Data Structure, Programming and Mathematics.

## Audience

Our DAA Tutorial is designed to help beginners and professionals.

## Problems

We assure that you will not find any problem in this DAA Tutorial. But if there is any mistake, please post the problem in contact form.

next →





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## Preparation



Verbal Ability



Aptitude

Reasoning

Verbal A.

Interview

Company

## Trending Technologies



AI



AWS



Selenium



IoT



Cloud



Hadoop



ReactJS



React Native



Node.js



D. Science



Angular 7

## B.Tech / MCA



DBMS



DS



DAA



OS



C. Network



Compiler D.



COA



D. Math.



E. Hacking



C. Graphics





Software E.



Web Tech.



Cyber Sec.



Automata



C



C++



Java



.Net



Python



Programs



Control S.

