

**Brute force** is a straightforward approach to solving a problem, usually directly based on the problem statement and definitions of the concepts involved.

**Exhaustive search** is simply a brute-force approach to combinatorial problems. It suggests generating each and every element of the problem domain, selecting those of them that satisfy all the constraints, and then finding a desired element (e.g., the one that optimizes some objective function). Note that although

The term "exhaustive search" can also be applied to two very important algorithms that systematically process all vertices and edges of a graph. These two traversal algorithms are *depth-first search (DFS)* and *breadth-first search (BFS)*. These algorithms have proved to be very useful for many applications involving graphs in artificial intelligence and operations research. In addition, they are indispensable for efficient investigation of fundamental properties of graphs such as connectivity and cycle presence.

## ☐ Chapter 3 / 4

- ☐ Brute - Force
- ☐ Exhaustive Search
- ☐ Depth First Search
- ☐ Breadth First Search

## ☐ Chapter 5

- ☐ Divide and Conquer
- ☐ Master Theorem

## ☒ Chapter 7

- ☒ What is a B-Tree?
- ☒ What is meant by order?
- ☒ How are B-trees represented?
- ☒ How do you insert data into a B-tree?

## ☒ Chapter 8

- ☒ Characteristics of dynamic programming technique

## ☒ Chapter 9

- ☒ Greedy Technique

## ☐ Chapter 11

- ☒ What are the limits of computational power? - *Some problems cannot be solved by any algorithm.*
- ☒ 11.3
  - ☒ Tractable - *Solved in polynomial time*
  - ☒ Intractable - *not solved in polynomial time*
  - ☒ P
  - ☒ NP
  - ☒ NP-Complete
    - ☐ What algorithms do the above fall into? *Decision problems.*
  - ☒ Decision Problems
  - ☒ Halting Problem

## ☐ Chapter 12

- ☒ Branch and bound
- ☒ What type of problems is this technique suited for?
- ☒ Knapsack Problem
- ☐ What does it mean to compute reasonable, informative bounds?

Branch and bound: an algorithm design paradigm for discrete and combinatorial optimization problems, as well as mathematical optimization

Reasonable and informative bounds: -