

Review & Exercise class for Exam 2

CS303: Algorithms

last update April 1, 2014

Topics

1. Binary search trees (Ch 12-13)
 - Chapter 12: Binary search tree
 - Property of BST
 - insert, search, delete, traversal (pre-order, in-order, post-order) on BST
 - Application of BST: min, max, sort
 - Chapter 13: red-black tree
 - Definition of RB tree
 - Properties of RB tree
2. Dynamic programming (Ch 15)
 - Matrix multiplication
 - Sequence alignment
3. Greedy algorithm (Ch 16, 23)
 - Activity selection
 - Huffman tree
 - Prim and Kruskal for MST
4. Graph algorithm (Ch 22-24)
 - Graph representation: adjacency matrix and adjacency list
 - DFS and BFS
 - topological sort
 - single source shortest path: Dijkstra's, Bellman-ford