

Data Structure & Algorithms

outline



Department of
Computer Engineering

Lecturer

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Textbook(s)

Title: Introduction to algorithms-3rd Edition

Authors: Thomas H. Cormen, Charles E. Leiserson, Ronald Rivest, Clifford Stein

Edition: 3rd

داده ساختارها و الگوریتمها، دکتر قدسی، انتشارات فاطمی، 1388
چاپ هشتم

What will we learn?

- The role of algorithms in computing
- Sorting algorithm, Insertion sort and Bubble sort
- Growth of functions
- Stack Data Structure and its types
- Queue Data Structure and its types
- Linked List and its types

What will we learn? (cont.)

- Binary Tree
- Binary Search Tree (BST)
- Heap Data Structure
- Red Black Tree (RBT)
- Augmented Data Structure
- Interval Tree

What will we learn? (cont.)

- Graph Theory
- Breadth First Search (BFS)
- Depth First Search (DFS)
- Dijkstra Algorithm
- Hash Table
- Divide-and-Conquer
- Merge sort & Quick sort
- Dynamic programming

What will we learn? (cont.)

- Matrix chain multiplication
- Greedy Algorithm
- Floyd–Warshall Algorithm
- Prim and Kruskal Algorithm
- Back Tracking

Evaluation

- Mid-term exam
 - 4-5 scores
- Final exam
 - 8-9 scores
- Assignments & Projects
 - 7-8 scores
- This may change, depending on the situation.

Contact information

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