
Lecture 7-8

Contents covered in class

Divide and conquer Algorithms

Lecture 7:

Quick Sort,

1. Non-in-place version uses three arrays Smaller, Equal, and Larger
2. Partitioning in $O(n)$ for in place Quick sort Algo
3. Pivot selection options

Lecture 8:

1. Pivot selection impact on performance
 - a. Pivot as first or last element of array issues
 - b. Randomized pivot selection
 - c. Median of three (1st, last, middle) or median of three randomly selected elements
2. Quick Sort Detailed Analysis with recurrence relations and solving for best, average (90% and 10 % split) and worst cases.