Lecture 08 Notes

Derek Harter

2015-02-18

1 First Session (11 - 11:40)

1.1 Searching arrays

- Linear Search

1.2 Sorting Arrays

- Bubble Sort

- Insertion Sort

- Merge Sort

2 Second Session (11:45 - 12:30)

2.1 Searching Arrays

- Binary Search

3 Third Session (12:40 - 1:40)

3.1 Introduction to Analysis of Algorithms

- Big O notation

- Time and Space

- Relative growth as a function of the size N of input.

Algorithm	Best case	Expected	Worst case
Bubble sort	$O(N^2)$	$O(N^2)$	$O(N^2)$
Insertion sort	$O(N^2)$	$O(N^2)$	$O(N^2)$
Merge Sort	$O(NlogN)$	$O(NlogN)$	$O(NlogN)$
Linear search	$O(1)$	$O(N)$	$O(N)
Binary search	$O(1)$	$O(logN)$	$O(logN)$