Lecture 08 Notes

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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	$O(1)$	$O(logN)$	$O(logN)$