Introduction

Merge Sort (Overview)

Design and Analysis of Algorithms I

Why Study Merge Sort?

- Good introduction to divide & conquer
  - Improves over Selection, Insertion, Bubble sorts
- Calibrate your preparation
- Motivates guiding principles for algorithm analysis (worst-case and asymptotic analysis)
- Analysis generalizes to "Master Method"

Tim Roughgarden

The Sorting Problem

Input: array of n numbers, unsorted.

5	4	1	8	7	2	6	3

Assume distinct

Output: Same numbers, sorted in increasing order.

1	2	3	4	5	6	7	8

Merge Sort: Example