Session 27
Strategy 4: Transform-and-Conquer

Lecture Summary

Focus on understanding the transform in each case. Note example of amortized efficiency in binary search (cost of later searches after the first costly search performs a sort). Opportunity to work on algorithm and data structures comparison outcomes.

Transform by Instance Simplification

1. Compare efficient searches in terms of setup, insertions, and find (lecture slides)
2. What is *instance simplification*? Examine binary search
3. Simplification by presorting:
   - Example 1: list element uniqueness
   - Example 2: mode statistic calculation
4. Presorting efficiency, comparison with corresponding brute-force solutions

👁 Examples of computing efficiency based on knowledge of algorithm operation (not directly from the pseudocode)

Session Exercise

📖 **Exercise 6.1** • 2, 3, 4 🛠 5, 7, 8, *9, 10a

Reading List

📖 6.1

Keywords

Amortize [efficiency], presorting