

Session 9

Strategy 1: Brute Force

Lecture Summary


- Focus on illustrating the algorithm design strategy and applying analysis techniques from Chapter 2.
- Students have studied to death how these algorithms work in previous courses.


Introduction of Brute Force Strategy

1. What is a brute force solution?
2. Classic examples from sort and search problems
 - Selection sort: from small instance to pseudocode, apply performance analysis plan
 - Bubble sort: from pseudocode to operation, performance
 - Sequential search, string matching
 - ◉ Watch iteration (loop) limits when working a small instance and notice the small improvements that we can make easily
3. Recap strategy characteristics


Session Exercise

- P11. Code the brute force string-matching algorithm. Insert code to count basic operations and use to prepare for tests (check results on practice cases.)

 Exercise 3.1 • 2, 3, 4

 Exercise 3.2 • 1, 4, 5, 6 ✖ 8, 9, 10, 11

Reading List

 3.1–3.2

Keywords

Brute-force, key [comparison], [small] instance