

Session 17

Strategy 2: Decrease-and-Conquer


Lecture Summary

Binary search, interpolation search, and Quickselect in its iterative top-down version are very similar in structure. The pseudocode only differs in the way each algorithm obtains a list split index.



Decrease-By-Constant Factor

1. Binary search: statement, review operation, principle, design pattern
2. Fake-coin problem: highlight pattern (similarity to binary search)
3. Performance recurrence and solution efficiency
4. ~~Russian Peasant Multiplication and Josephus Problem not included in course~~

Session Exercise

 Exercise 4.4 • 3, 5 ✖ 2, 6, *7

Reading List

-  4.4
-  Appendix B (Decrease-by-a-constant-factor)

Keywords

Interpolation, smoothness [rule]