


Session 16

Strategy 2: Decrease-and-Conquer


Lecture Summary

Explain straight decrease-by-1 algorithms of  4.3 together to highlight similarity, next introduce Johnson-Trotter algorithm then fuss about generation order and its significance.

More Decrease-By-1 Algorithms

1. Motivation
 - Combinatorial questions involving a set of objects
 - Generating combinatorial objects
2. Straight decrease-by-1 permutations and subsets
3. Johnson-Trotter permutation generation algorithm
4. Generation order:
 - Minimal change vs. *lexicographic* orders
 - Significance of generation order
 - Algorithm hints
5. Note on efficiency of generation algorithms

Session Exercise

 Exercise 4.3 • 1, 2, 4, 5, 6

Reading List

 4.3

Keywords

Combinatorial, lexicographic [order], index set, power set, squashed [order]