

Chapter 04 — Randomized Algorithms

CS161 Reader (Plotkin F10)

Contents

1 Chapter 04 — Randomized Algorithms	1
1.1 Theorem 4.3 (Expected QuickSort Comparisons) [P6]	1
1.2 Theorem 4.4 (Expected Linear QuickSelect) [P6,P1]	1
1.3 Theorem 4.6 (Karger Success Probability) [P6,P7]	1

1 Chapter 04 — Randomized Algorithms

1.1 Theorem 4.3 (Expected QuickSort Comparisons) [P6]

Linearity of expectation via indicators.

1.2 Theorem 4.4 (Expected Linear QuickSelect) [P6,P1]

Expected shrinkage recurrence solves to $O(n)$.

1.3 Theorem 4.6 (Karger Success Probability) [P6,P7]

One run succeeds with probability $\Theta(1/n^2)$.