Checkpoint 1

2 pages of notes

Up through 2/15 (no material from this week)

Will make checkpoint from last semester available (note, it was challenging)
Checkpoint 1 topics

Math foundations
• log properties
• properties of exponentials

Proofs by induction (weak, strong, and structural)

Big-O (theta and omega)
• Proving and disproving
• Categories and function ordering
Checkpoint 1 topics

Recurrences
• Generating (i.e., given a function/algorithm, write the recurrence)
• Solving: recurrence tree, substitution, master method

Sorting
• Insertion sort, Selection sort, Mergesort, Quicksort
• Runtimes, properties (in-place, stable)

Order statistics
• median/selection
• run-time
Checkpoint 1 topics

Data structures
• BSTs, red black trees, binary heaps, binomial heaps
• Run-times and functionality basics

Amortized analysis
• Aggregate and accounting methods