2401 Exam 3 Study Guide

Below is a non-exhaustive list of topics to know for exam 3. Anything on this list is a good candidate to be on the exam.

We strongly recommend that you work through many practice problems as part of your preparation. Simply memorizing notes from class, past quizzes, or tests will not prepare you to solve new problems on the exam. You need to understand the concepts well enough to apply them in new situations.

Searching and Sorting (Ch 18)

- Basic complexity analysis; operation counting
- Big-Oh notation
- Linear search
- Binary search
- Bubble sort
- Insertion sort
- Selection sort
- Quick sort
- Merge sort
- Heap sort
- Average and worst-case complexities for all of the above algorithms

Binary Search Trees (Ch 19)

- Definition and terminology for trees
- Pre, In, and Post-order traversals
- Array-based and Reference-based tree implementations
- Binary Search Trees
  o Finding elements
  o Inserting elements
  o Deleting elements
- The last half of ch 19 on AVL trees and balancing is NOT included on exam 3, but will be on the final