

Final Exam Logistics

- Pick your 110 minutes between 12:00am on December 11 and 11:59pm on December 12, AZ time.
- You need to have an environment where you can concentrate on the exam.
- Closed book exam. One page cheat sheet allowed.
- Similar format as midterm 1 and midterm 2.
- About 80% materials not covered in the first two exams
- About 20% materials already covered in the first two exams

Topics on the Final Exam: 1 of 2

- **Binary Search Trees:**
 - Know detailed operations and time complexity
- **Red-black Trees:**
 - Know detailed operations and time complexity
- **Dynamic Programming:**
 - LCS: Know detailed operations and time complexity
- **Hashing:** Know detailed operations and time complexity for chaining and linear probing
- **Linear Time Selection:** Know the algorithm at the high-level and the time complexity, refer to HW06
- **Problem Solving using the Right Data Structures and Algorithms** (all topics in the final lecture)

Topics on the Final Exam: 2 of 2

- Problem Solving using the Right Data Structures and Algorithms (all topics in the final lecture)
- Note that in the final lecture, we compare various data structures and algorithms and analyze them using asymptotic notations.
- For all algorithms and data structures studied in this class, you need to know the time complexities for all functions. You are expected to choose the right algorithms/data structures to solve a given problem.
- For the materials covered in the first two exams, you will not be asked to perform detailed steps. But you need to know the time complexities.