CS310 - Advanced Data Structures and Algorithms

Midterm review

October 5, 2022
The midterm exam will take place on October 12 in class.

- Weight – 25% of your final grade.
- If you can’t make it for a really good (documented) reason – contact me ASAP for a make-up exam.

- **Four questions**, answer on paper, even if code is required.
- If you use the back side of the paper and want me to read it, please state it clearly.
- Write clearly or you will have to read it to me in person during my office hour (I mean it and I have done it!).

- No cursive please.
Midterm Exam

- You can bring the book, class notes, hw’s, pa’s, solutions and anything written or printed you think may help you.
- Do not bring computers, cell phones, iPads, smart watch, friends or any other electronic or human means of communications.
- You can bring a simple calculator and a simple wrist watch or alarm clock. I will project the time on the screen for your convenience.
- Work should be strictly individual.
- Bags should be placed at the front of the class. Turn off or silence your cell phone beforehand (!!!).
Anything we learned and was covered in hw1-2 and pa0 including but not limited to:

- Pre-requisites – as background material. I will assume knowledge but will not ask questions per-se.

- Runtime analysis – big-O notation, recursive runtime analysis ($T(n)$), logarithms, rules of sum and product of operations.

- Java and Collections – Linked/Array lists, Tree/Hash sets, Tree/Hash maps.
General Guidelines

- RTFQ, then ATFQ (read the fabulous question, then answer the fabulous question).

- Explain your answers but do so briefly – rarely should you need more than one short paragraph. Remember that excessive writing usually covers for lack of knowledge.

- If you have to write code – I will care more about the algorithm than the Java syntax (but make it look like legit Java).

- Remember – I care mostly about you understanding the material. There’s nothing in the exam that you haven’t seen before in one form or another.