



CSSE 230 Day 30

That's all folks.

How will CSSE230 help you later?

- ▶ Data is at the heart of software.
 - The companies you may work for agree!
 - The data is the “irreducible complexity” of the code.
 - Many technical interview questions involve data structures
- ▶ This class has been very “heads down.”
 - Getting the algorithms right.
 - Making good OO design choices to write elegant code.
 - In later courses too (CSSE304, 473, 374)
 - You will need to write detailed software
 - You learned how to **plan** and how to **step through code**
- ▶ You also need to be “heads up.”
 - Understanding requirements means knowing clients & users! (CSSE 371)
 - Know when efficiency matters: Recall C.A.R. Hoare’s quote
 - Applying ethics
- ▶ Your career and most upper-level courses need a balance

Let's revisit the "Big picture", with understanding

THE **BIG** PICTURE CSSE 230 - DATA STRUCTURES AND ALGORITHM ANALYSIS

Applications:
(10%)

ADT:
(15%) List Stack Queue PriQ Set / Map (key/value) Graph

Implementation
Choices

(heap) (hash) (circular) (2D)
Array-based
(20%)

Object/pointer-based
(40%)

Algorithms:
(15%)

List	ArrayList	LinkedList	EditorTree (with ranks)
Diagram			
Access by index			
Insert/remove at end			
Insert/remove at iterator position			

PriorityQueue	Heap
Diagram	
add	
findMin	
deleteMin	

Course Evaluations on Banner

- ▶ Numbers are nice, but written explanations are much better
- ▶ Focus:
 - Did you learn a lot?
 - Are there things you know/can do now that you didn't/couldn't at the beginning of the term?
 - What about the course/instructor enhanced your learning?
 - What about the course/instructor were barriers to your learning?
 - Be as specific as possible.

Final Exam Details

- ▶ Format same as previous exams.
- ▶ You can bring two sides of 8.5" x 11" paper.
- ▶ Comprehensive, but more focus on last 3 weeks
 - 60% paper, 40% programming (90/60 points)
- ▶ Best preparation:
 - Written problems
 - re-do programming problems you struggled with on homework/exams

Final Exam topics

- Reading, programs, in-class, written assignments.
- Foci:
 - Binary trees, including EBT, AVL, red/black, and rank
 - Traversals and iterators, numeric properties
 - PriorityQueues, Heaps and heapsort
 - Issues in Hash table implementation
 - Graph implementations
 - Recurrence relations
 - Sorting algorithms and analysis
 - Algorithm analysis (O , θ , ω) in general
 - OO programming, using various data structures (lists, stacks, queues, sets, maps, priority queues)
 - +/- with ADT implementation options (like we did for PQ – be specific with answers)

What's left?

- ▶ Finish sorting races by 11:00 PM today (or use a late day).
- ▶ If there are issues with grades on old assignments, we should get them resolved as soon as possible.
- ▶ Final Exam Thursday 1:00 PM
- ▶ Study, including taking the practice exam