Course Topics Overview

Data Structures

- Storage: × *operations*
  - List/Sorted List
  - Stack
  - Queue
  - Binary Search Tree
  - Hash Table
  - Heap

  `Insert()`
  `Find()`
  `Remove()`
  `FindMin()/FindMax()`
  `DeleteMin()/DeleteMax()`
  traversals (sorted/complete)
- Structural
  - Tree — *traversals*
  - Graph — *traversals, shortest paths, MSTs*
- Sparse Arrays — *storage, traversals*

Course Topics Overview

Algorithms

- categorization of algorithms:
  - recursive vs. iterative
  - primary vs. secondary effects
  - greedy vs. divide-and-conquer vs. other
- types of algorithms
  - searching (linear, binary, using data structures)
  - selection (using data structures, quickselect)
  - sorting (insertion, shellsort, mergesort, quicksort, bucketsort)
  - graph-based (shortest path, minimum spanning tree)