CS062

DATA STRUCTURES AND ADVANCED PROGRAMMING

14: Mid-semester check-in

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Lecture 14: Mid-semester check-in

▸ **The story so far**

▸ Summarizing feedback and looking ahead

▸ Practice problems

Basic data structures

▸ Arrays,

▸ Resizing arrays or arraylists,

▸ Linked Lists,

▸ Queues, and

▸ Stacks.

▸ Runtime and memory analysis for each one.

Sorting

▸ Selection sort,

▸ Insertion sort,

▸ Mergesort, and

▸ Quicksort.

▸ Runtime (comparisons and exchanges), stability, in-place for each one.

▸ Comparators: How to sort a data structure with objects of any class.

▸ Iterators: How to traverse a data structure.

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▸ The story so far

▸ **Summarizing feedback and looking ahead**

▸ Practice problems

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▸ The story so far

▸ Summarizing feedback and looking ahead

▸ **Practice problems**

Four classic SE interview questions that use data structures

▸ Work in groups

▸ Pick 2 problems (one from linked lists and one from queues & stacks)

▸ Write unit tests

▸ Work on both for the remaining time

▸ Continue with a new one if done before the allotted time

▸ ONLY if you feel confident about your proposed code, consult the code I provide you.

Code

▸ [Lecture 14 code](#)

Practice Problems:

▸ [In-class worksheet](#)