

WEEK 07

1. PREPARATION FOR ASSIGNMENT

If, and *only if* you can truthfully assert the truthfulness of each comprehension and memory self-check statement below are you ready to start the tasks for the week.

1.1. Reading Comprehension Self-Check.

- I know and understand the difference between an array, a vector, a stack, a queue, a deque, a set, and a list.
- I know and understand what a node is and why it is integral to the concept and creation of a list.
- I know and understand why `push_front`, `pop_front`, `push_back`, and `pop_back` are significantly different for list when compared to deque.
- I understand why the list find method returns an iterator.
- I understand what happens to a pair of nodes when another node is inserted between them.

1.2. Memory Self-Check. I can, and have, explained to someone who is not a student in the Computer Science and Electrical Engineering, Computer Information Technology, or Mathematics departments in a way that they understand what a set is and why it is important.

2. WEEK 07 TEAM TASKS

Note: All review tasks come from the book.

2.1. Review Task 07.7.

2.2. Creation Tasks. Write code matching the UML class diagrams on page 192 of the book so that it passes the assertions in the `main.cpp` for this collection.

2.3. Pondering Task. What different kinds of uses can you find or brainstorm for this data structure?

2.4. Pondering Task. What changes to the API for this data structure can you brainstorm that might make it easier to use? What would be the design for one of your changes?

Date: January 6, 2020.

2.5. **Pondering Task.** Brainstorm some coding tasks/situations or types of data where using this data structure would make organizing, accessing, inserting, or updating the data difficult.

2.6. **Pondering Task.** Brainstorm about and record why there are differences between the API for this data structure and the API for this data structure in another language of your choice. Consider the strengths, weaknesses, similarities, and differences between these API's for the data structure.