CD3 Study Guide

CD3 addresses topics from weeks 11-14. It covers one topic/outcome set in the course:

Topic 6 - Searching Algorithms and Tree Data Structures

- Trace, identify, and explain the appropriate use of common "tree" data structures.

In the end, we spent this unit focusing on the **tree-like** searching algorithms and didn't really get into tree-based data structures. Thus, it will be helpful to draw out this idea bit more explicitly.

- Explain the generic search algorithm
- Explain each of three main searches we studied in this unit
  - Breadth-First Search (BFS)
  - Depth-First Search (DFS)
  - A* Search
- Explain how the generic search algorithm is modified to implement the three main searches
  - Which data structure is used in the frontier
  - Do we (or do we not) check for duplicate states? Why?
- Given a search tree,
  - Trace the order in which nodes are visited for a particular search.
  - Explain why the nodes are visited in the order you just provided.