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Title: Day 8 Report

Summary of Activities

- Discuss tree data structures. I had a discussion about my current understanding of tree data structures. This discussion led to orienting my progress for further studies into trees by learning recursion in trees, DFS with recursion which would cumulate with learning about deleting nodes from BSTs and self balancing trees
- Relearn recursion. Went back to understand the process of recursion. This started by implementing iterative simple functions, adding a self call, understanding the use of return in terminating function calls and call stacks.
- Learned about hashmaps. This involved breaking down base principles of dictionaries. Hashmap capacity, size, buckets and loading factors.
- Implemented hashmaps to solve longest sub-string on LeetCode. I created a hashmap and used a two pointer window to confirm the length of the longest sub-string

Challenges Faced

- Electricity. I had to stop early following instability in power supply
- Good operation procedures. Understanding real-world use and accounting for non-unique values, value replacement and encapsulation challenges

Key Outcomes

1. Learned about hashmaps
2. Implemented hashmaps
3. Relearned recursion for a more complete understanding

4. Learned programming best practices (Don't brute force, account for outliers, have a base case, identify all edge cases)