University of Waterloo
CS240E, Spring 2025
Programming Question 2, Post Mortem

This document goes over common errors and general performance on the assignment. We create it using feedback from the graders, and it is meant to be used as a resource to understand common areas that we can improve in.

BST

- All submissions passed the all the tests, which was well done.

- Most submissions used the plain one-block-one-node implementation, while a few submissions stored many nodes in a single block.

- A few submissions were AVL implementations.

B-Tree

- Most of the submissions are correct.

- Many submissions have a better performance than canonical solution (a plain solution without any optimization considerations).

Bonus: AVL Tree

- Most of the submissions are valid.

- Most of the submissions are AVL trees: some of them stored them plainly (one node per block), some of them stored many nodes in a single block.

- A few submissions were BST with fat nodes, with balancing mechanism and multiple optimizations.

- Some optimization methods includes caching (within an allowed small number), write-back policy, optimized rotation strategy, etc.

- A few submissions used reconstruction strategy for balancing, instead of rotations.

- 2 submissions were disqualified for submitting raw BST.

Bonus: B+ Tree

- We received a few submissions for this bonus question, and most of them were correct.

- A submission was disqualified for submitting raw B-Tree.