

University of Waterloo

CS240E, Spring 2025

Assignment 3, 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.

Q1

- This question was well done.

Q2

- This question was well done.

Q3

- Q3(b) A lot of submissions didn't understand induction very well, for example, choosing hypothesis assumption as $T(n) = O(\log(n))$.
- Q3(b) A lot submissions didn't handle the case $i = 0$ with log properly.

Q4

- Q4(b): Some solutions forgot to mention that calculating log takes $O(\log n)$ time.
- Q4(d): Many solutions claim that the height of the subtree will decrease by at least 1, but did not provide a proof by calculating the difference between the subtree height before and after reconstruction.

Q5

- Q5(d): We treat all the comparisons on the same node as a single comparison that has 3 outcomes: $>$, $<$ and $=$. Some solutions got a higher comparison number because of this.