# University of Waterloo
# CS240E, Winter 2024
# Assignment 2 post-mortem

## General note

- Please use \neq to typeset $\neq$ in LaTeX. Very many people are using something like $| =$, which is much harder to read when the text is long.

## Question 1   [6 marks]

- This problem was done well.

## Question 2   [5+3=8 marks]

- A lot of students did random access in a list. This was not penalized, but going forward read questions more carefully.

## Question 3   [4+1+6+6(+5)=17(+5) marks]

- A lot of students struggled with time units. This often lead to overly complicated analysis.

- Very many students broke down the insert operation into smaller moves, which was not necessary and only distracted from the idea.

## Question 4   [4+2+5+3+4=18 marks]

- For Q4a, many solutions did not treat logs explicitly

- For Q4a, the function *notHeightBalanced* should return true if the tree is *not* height balanced. A common error was to return true if it was balanced.

- For Q4d, some students assumed the statement they were supposed to prove was true in the middle of their proof that the statement was true. i.e. 'since rebalancing the subtree to be perfectly balanced reduces the height, the resulting subtree is height balanced' but not giving any proof that the height was reduced.