# University of Waterloo <br> CS240 - Winter 2021 <br> Assignment 1 Post Mortem 

## Problem $1 \quad[3+3+3$ marks]

- For part(c), a few students forgot to mention that $n_{0} \geq 1$.


## Problem 2 [3+3+3 marks]

- A few students used maximum rule but did not specify the range of n. For example, the range of n to make $(\log n)^{3}>(\log n)^{2}$.


## Problem 3 [3+4+4 marks]

- For part(b), Generally some student can't find the final bound. Mostly they got the correct summation.
- For part(c), Generally some student didn't realize that they solve the sloppy recurrence without even mentioning that they are being sloppy.


## Problem 4 [5+5+5 marks]

- A few students people for some reason have the same n and in some case the same c for the two algorithms.
- For part(c), most people got caught on this question and tried to prove it.


## Problem 5 [2+4 marks]

- Most students think these are almost the same thing and use it interchangeably, or they say that there should be a c that satisfies it but don't make an attempt to define it.


## Problem $6 \quad[2+6+3+4+4]$

- For part(b), most students do not give an explicit worst case example.
- For part(c), many students did not specify how to split array. Many students don't get a precise way to split the array, and they just take $n / k$ for each sub-array and clamp to n for the last one.
- For part(e), a few student put insertion sort, which is a different idea.

