

University of Waterloo
CS240 Winter 2026
Assignment 1 Post Mortem

Due Date: Tuesday, January 20 at 5:00pm

Question 1 [3+3+3+4+4=17 marks]

Some students used limit rule, which is not a proof by first principles.

Some students proved that the definition holds for some large enough n_0 using limits, instead of finding $n_0(c)$.

Question 2 [3+3+3+3=12 marks]

Some students jumped from the initial summation to the final bound, without showing any intermediate work or formulas.

Some students only proved $O(n)$.

Some students were missing/skipping summations

Question 3 [2+2+2=6 marks]

- a) – Some students evaluated $T(n + 2)$ and $T(n + 3)$ using Leo's argument, but not for $T(2n)$.
 - Some students only evaluated $T(2n)$.
- b) Some students didn't explain $O(n^2)$.
- c) Some students tried to do induction from scratch and made mistakes