

University of Waterloo
CS240 - Fall 2026
Assignment 1 Post Mortem

Problem 1 [3+3+3+3+3=15 marks]

Some students used limit rules instead of first principle. In (d) and (e), some students did not include factor of c for n_0 or account for $0 < c < 1$ case. And (e), some students did not use max to obtain the n_0 .

Problem 2 [4+4=8 marks]

Some students skipped too much work in the limit calculation, used claims without proofs, or minor math errors.

Problem 3 [6+6=12 marks]

This question is well-done. Not many students lose marks on this. Most deductions are from not attempting the question.

Problem 4 [6 marks]

This question is well-done. The only mistake is getting some parts wrong for the summation or missing the special case for $\theta = 2$.

Problem 5 [2+2+4+4=12 marks]

Students mostly did well but a few struggled with (d).

Problem 6 [5 marks]

Some students did not justify the claims they made. And some students did not make the argument precise i.e. justifying how s is strictly decreasing after one or two iterations. Overall, it is well-done.

Problem 7 [5 marks]

Some students miscounted loop iterations, and some did not clearly justify the overall running time.