

UG Exam Performance Feedback

Second Year

2017/2018 Semester 1

COMP26120 Algorithms and Imperative Programming

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Comments Q1. Algorithm Design.

Overall the performance on this question was good, with an average of 63%, and many students with very good marks, few students with very low marks.

Each part required invention of algorithms, and many interesting ideas were proposed. Marks were lost if inefficient algorithms were described, but marks were also lost by many students through poor algorithms descriptions, sometimes without any attempt at pseudocode or a program, and just poor English explanations.

Marks were also lost by many for poor presentation of the worst-case complexities - either getting them wrong, or not showing clearly how they are calculated.

Q2. The Class divided into two on this question, much as, when a vessel goes down at sea, the ship's company divides into those who can swim, and those who can't. Quite a few candidates got extremely high marks, but there were a great many non-serious attempts (or simply blank answer papers). This may have been because some candidates ran out of time, or because they calculated that the exam was not worth enough points to worry about.

a) Generally well done. I expected exact mathematical definitions. Vague mention of "upper bounds" or "lower bounds" scored nothing.

b) I expected a formal proof. A small (but non-negligible) fraction of the class realized that on the assumption that $f \in O(g)$, to show $g \in \Omega(f)$ you have to produce constants c and n_0 witnessing the definition.

c) I expected the classic expansion. Generally, candidates got this right. I was forgiving in case of failure to mention the base case.

d) Most serious attempts at the question got this one right. A few candidates failed to say clearly what the summation was over.

e) Very well done. I gave good partial marks for explanations which were vague on various points. For full marks, you had to mention corner cases (all zero rows) etc. I was not particularly strict when judging technical correctness.

f) Most serious attempts at the question got this one right.
