

UG Exam Performance Feedback

Third Year

2017/2018 Semester 2

COMP36512 Compilers

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Comments Q1: Overall good answers, no specific/persistent problems. Some of the most common issues had to do with: c)v which clearly can be recognized by a regular expression as lexicographic order does not require memory. Also, in d), the question was about writing a regular expression: regular expressions do not include "." to represent patterns. Finally, in e), an NFA was given and an NFA was asked: there was no need to transform to a DFA.

Q2: Reasonably good answers, no specific problems. Among the common issues, some people failed to draw the parse tree in a) i), or failed to realize that this is a tree and not a directed graph (so no arrows). The transformations in a) ii) were mostly answered well with common problems related to how the rules actually applied. In b) the control graph is a collection of basic blocks and occasionally some answers would split every assignment statement as a separate node, which is not correct.

Q3: Generally ok. Some of the problems had to do with identifying the reason for the transformation in a), which is not loop interchange, as no loops are changed; the aim is to have unit-stride access (with benefits when accessing array elements at run-time). In b) many answers did not state the assumptions they made about interference (or applied it incorrectly). In c) the question asked for an explanation of how priorities were set but often this was not clear from the answers; also, the precedence graph was not always drawn correctly as a directed graph (to indicate dependencies). Finally, in d) there was occasionally no discussion on both setting priorities and breaking ties or a demonstration of how they can lead to different schedules, as the question asked.
