PGT Exam Performance Feedback
2014/2015 Semester 2

COMP60332  Automated Reasoning and Verification

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Comments

Question 1
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Average: 74.6%
Answered by: 100%

a) Quality of answers generally satisfactory. It was important to choose an example that showed a different result for multi-set intersection and set intersection, and giving sufficient explanation of the key differences.

b) Mostly very good answers.

c) i. Most description good. Some students explained CNF transformation without structural transformation which is incorrect.

ii. Generally good examples were chosen; examples requiring only one renaming step were not regarded sufficient to illustrate the method fully.

d) Generally answered very well. Not applying SE or TE eagerly and stopping the derivation prematurely led to marks being deducted.

Question 2
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Q 2c) students struggled with the bounded model checking algorithm

Question 3
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Average: 65.3%
Answered by: 91.0%

a) Generally answered very well. Despite the question explicitly requiring that no variables should be used in the English translations, some students chose to ignore this, which was penalised.

B) Was mostly answer correctly, but mistakes were made with ii.

Question 4
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Q 4.a.ii) most students apply correctly the model construction method but some combined model construction with the minimal exception reduction.

Q 4.a.iv) some students resolved the minimal exception with a non-productive clause, instead of the productive one.

Q 4.c) some students selected positive literals, only negative literals can be selected by the selection function.

C) i. Generally beautiful answers. A few mistakes were made when moving the existential quantifiers to the front of the formula and during Skolemisation.

ii. Half of the students did not know what a Herbrand universe is.

D) The hardest part in this question. Only one completely correct answer.

i. Most managed to give an interpretation for clause A and gave good explanations for this case, but defining the interpretation so that it also satisfies clause B posed a challenge. A common mistake: not knowing when a non-ground clause is true in Herbrand interpretation; not knowing that a Herbrand intersection is a set of ground atoms (not terms, not including negative literals).

ii. Very few correct answers.

iii. Half answered the question correctly.