PGT Exam Performance Feedback
2012/2013 Semester 2

COMP60332  Automated Reasoning and Verification
            Renate Schmidt
            Konstantin Korovin

Comments

Q1 selected: 100% average: 73.6%

a) i, ii were solved by all; iii some failed to note that these multisets are incomparable. Most gave a correct example.

b) * some forgot to add n1 -- the name of the given formula to the clause set
* most failed to state that the obtained set of clauses is not equivalent to the given formula but equi-satisfiable
* some had errors in transforming subformula definitions into CNF

c) many gave correct answer but some failed to give correct definitions for soundness and completeness or a correct example for incompleteness of resolution without factoring.

d) mainly correct, but many forgot to apply simplifications eagerly

Q2 selected: 60% average: 83.3%

a) i,ii, iii correct by most
iv) many forgot to add ~b^y_0 to the formula.

b) all answered correctly

c) mainly correct; some were confused how to check LTL formulas on a path.

Question 3

Average: 51.0%
Answered by: 53.3%

a) Quality of answers varied from very good to poor. It was expected to explain the notion. Giving formal definitions in the cases where the notion is defined in the definition sheet is not enough.

B) i. Quality of answers mixed. Some mistook Core(x) as a term rather than a formula.
ii. Generally posed no problem.

C) i. Almost everybody got 1 and 4 right. Most got answers of 2 and 3 right but explanations weren't enough.
Common mistake in 5: to say both literals are maximal.

Question 4

Average: 66.2%
Answered by: 86.7%

a) i. Everybody got full marks!
ii. Answers generally very good. Answers were lost for mistakes in explanations, e.g. wrongly identifying clauses as exception clauses, not providing a final answer or giving wrong final answer.
iii. Most got it right. To repeat the model construction for the clauses extended with factors and resolvents in ii. Is a mistake and leads to a wrong answer here.

B) Mixed quality.
Common mistakes: not knowing how to reduce validity to satisfiability, mistakes in transformation to clausal form, e.g. pulling out quantifiers, Skolemisation.

C) i. Common mistake: not knowing what the Herbrand universe is.
ii. For the ground clause the answer were generally correct. For the non-ground clauses a common mistake was to conclude truth based on one ground substitution.
iii. Only one completely correct answer, many wrong answers, some partially correct answers (was more challenging).