CS 773 Winter 2001

Exercises and Presentations 4

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Exercise 14

12 pts., due no later than 1-APR-2001.

Define in IMPS two theories named `strict-total-order` and `nonstrict-total-order` analogous to the IMPS theories `strict-partial-order` and `nonstrict-partial-order` defined in class. Show that these theories are equivalent by showing that the axioms of the second theory are theorems of the first and vice versa. Show that these theories are equivalent in another way by showing that the first theory can be interpreted in the second and vice versa.

Exercise 15

10 pts., due no later than 1-APR-2001.

In the theory of Peano arithmetic defined in Exercise 10, prove that both addition and multiplication are commutative.

Presentation 4

Due no later than 6-APR-2001.

Give a 10-minute overview of a software specification language. Many examples can be found on the Formal Methods Web site at `http://www.afm.sbu.ac.uk/fm/`.