



Take-Home Midterm Semantics, WS 2013/14

Prof. Dr. Gert Smolka, Steven Schäfer

www.ps.uni-saarland.de/courses/sem-ws13/

To be handed in: 2013-12-18, until 12 p.m.

This is a take-home project that will contribute to your midterm exam. The maximal score for the project is 30 points. You may use your lecture notes, textbooks, and the sources specified on the Resources page of the course. You may search the web, but you must not copy Coq code. You may ask the course staff for clarifications, but otherwise you may not receive help from other people.

You are given a Coq development of simple typing for combinatory logic. The main result is strong normalization of typable terms. Your job is to fill in the proofs we deleted from the development. The development contains all definitions and lemmas used in the sample solution. You may fill in the proofs in any order. You will receive credit for every finished proof. For the hardest lemma (`two_in_one`) we may look at partial solutions.

Try to come up with transparent scripts that reflect the mathematical proofs. For full credit your proofs should be reasonably elegant.

Send your solution file to schaefer@ps.uni-saarland.de. To receive credit, we must have received your file by Wednesday, December 18, 2013, 12:00 noon. We will only look at files that compile with Coq 8.4.