CS 565 Out: December 4, 1997
Jens Palsberg Due: December 11, 1997

Homework 11:

Implement the Fast Control-Flow Analysis

1. Homework 7, Question 7 concerned a subset of Scheme. Let us call it MicroScheme. Write in Java a Scheme Analyzer which does the fast control-flow analysis of Heintze and McAllester for MicroScheme, and then prints a listing of the label sets for all expressions e_1 which is the function part of an application $(e_1 e_2)$. Submit the program together with substantial evidence that the run time is no worse than quadratic in the size of the input. For ideas, see Section 10 of the Heintze/McAllester paper. Submit a family of testprograms $e_1, e_2, \ldots, e_n$ together with a table with run times and an informal argument that the figures grow quadratically, that is, $O(n^2)$. Submit also an estimate of a constant c such that the run-times grow slower than $c \times n^2$.