HW 7 – Unification
CS 421 – Fall 2013
Revision 1.0

Assigned Tuesday, October 15, 2013
Due Tuesday, October 22, 2013, 19:59 pm
Extension 48 hours (20% penalty)

1 Change Log

1.1 Revised hand-in procedure.

1.0 Initial Release.

2 Turn-In Procedure

Answer the problem below, save your work as a PDF (either scanned if handwritten or converted from a program), and `svn commit -m ""` the PDF. Your file should be named `hw7-solution.pdf` and commited in your `assignments/hw7` directory.

3 Objectives and Background

The purpose of this HW is to test your understanding of

- How to unify a system of equations

Another purpose of HW7 is to provide you with experience answering non-programming written questions of the kind you may experience on the second midterm and final.

4 Problems

1. (21 points) Give a most general unifier for the following set of equations (unification problem). The uppercase letters A, B, C, and D denote variables of unification. The lowercase letters f, g, and h are term constructors of arity 2, 3, and 1 respectively (*i.e.* take two, three or one argument(s), respectively). Show all your work by listing the operations performed in each step of the unification and the result of that step.

$$\text{Unify}\{(f(A, g(B, C, h(D))) = f(g(C, B, C), A))\}$$