

CS 671 Graduate Seminar

Challenge Problem 1

Local Common Subexpression Elimination

In lecture 2, we talked about the DAG construction algorithm for local common subexpression elimination.

- Show the DAG for the following piece of code

1. $a = y + 2$
2. $z = x + w$
3. $x = y + 2$
4. $z = b + c$
5. $b = y + 2$

- Describe an algorithm that generates *correct* code from such a DAG.

Use basic algorithm as discussed in lecture 2, and in ASU p. 548.

- Show the code generated for the example code. Note: You will have to extend the basic algorithm in order to make the code generation work.