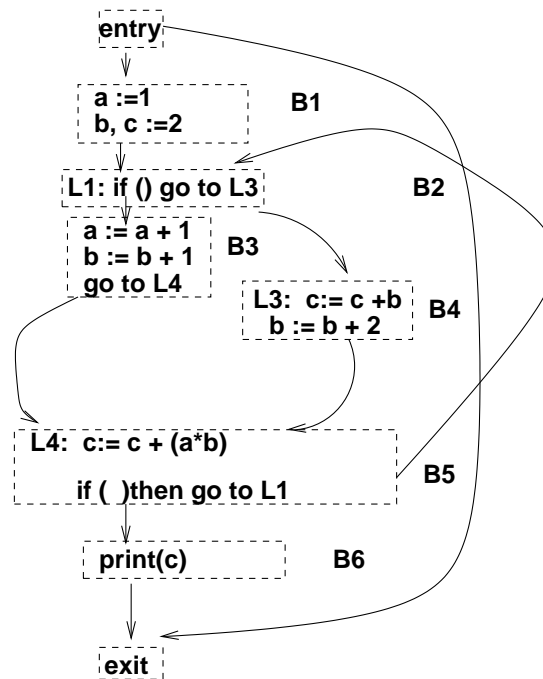


CSE 231 Fall 2005 HW 2 Due Tues Oct 18

Please check class web page for homework policy.

Problems:

1. Consider the following CFG:



- (a) From the CFG, construct the Dominance Frontier set for every basic block node.
 - (b) Construct the SSA form for the program, and indicate the Def-use chains for this.
 - (c) Construct the Control Dependence graph for the CFG.
2. Give an example of a simple loop with array instances (either assignments and/or uses) that has
 - (a) a flow (true) data dependence involving two array instances
 - (b) two array instances which are provably independent by the GCD test
 - (c) a loop-carried data dependence with distance 2 between array instancesindicating the data dependence or independence in each case.