CS 6340 – Spring 2013 – Assignment 5 **Name**_____
Assigned: January 30, 2013
Due: February 6, 2013 **Name**_____

At the beginning of class on the due date, submit your neatly presented solution with this page stapled to the front (60 points).

NOTE: All work on this problem set is to be done with your partner and without solutions from other past or current students. Any violations will be dealt with according to the Georgia Tech Academic Honor Code and according to the College of Computing process for resolving academic honor code violations. All work must be done using some document creation tool. In addition, graphs must be drawn with a graph-drawing tool—no hand-drawn graphs will be accepted.

Given the following C program,

```
Program M
1.   begin M
2.     read i, j
3.     sum = 0
4.     while i <= 10 do
5.        call B
6.     endwhile
7.     print (i)
8.     call C
9.   end M

Procedure B
10.   begin B
11.     if sum > 10 then
12.        print (error)
13.     endif
14.     call C
15.     i = i + 1
16.  end B

Procedure C
17.  begin C
18.     if j >= 0 then
19.        sum = sum + j
20.        read j
21.     endif
22.  end C
```

1. Construct the PDGs for M, B, and C in the program above. The control-flow graphs should have one node for each statement.
2. Use the PDGs from (1) to construct the system dependence graph for M.
3. Compute the slices for the program with the criteria
    a. <7, i>
    b. <15,i>
    c. <18, j>

   Justify the results for all the slices by describing the way you computed them.