

SE 4367 (Software Testing)
Homework #11, Data Flow Graph

For the following program P written in pseudo-code,

- a) Build the dcu/dpu table for P. See Mathur's Example 7.31 (slide 34 in the lecture on data flow) as an illustration.
- b) Draw the data flow graph for P.

Program P

```
1)  integer x, n = 0, negatives = 0, positives = 0;
2)  while (input (x))
3)  {
4)      n = n + 1;
5)      if (x < 0)
6)          negatives = negatives + x;
7)      else
8)          Positives = positives + x;
9)  } // end while more data
10) output (n, negatives, positives);
11) end;
```

Grading Rubric

a) Max of 50 points

For each incorrect (added or left out) variable in the dcu/dpu variable/defines pair, dcu, or dpu, -5 point each

b) Max of 50 points

For each block (in the CFG) incorrectly created, -10 points

- Incorrectly labeled defs, cp-uses, p-uses in the DFG, -5 points each
- Incorrectly labeled edges in the DFG, -5 points each