In Class Exercise – Data Flow Analysis

Thu, Oct 25, 2018

1. Draw the control-flow graph for the following program. Don't put statements in basic blocks; put every statement in its own node.

```
y = x + 3;
z = y + w;
w = 42;
while (z < a) {
    z = z + y;
    a = a - 1;
    x = x + 1;
    if (z > 5) {
        y = x + 3;
    }
}
```

2. Write down gen and kill sets for *available expressions* for each assignment statement in the above program.

3. Compute the set of available expressions at the *out* of each statement in the control-flow graph.