Homework #3 - Reaching Definitions

1. Use the following source code and answer the questions about reaching definitions.

```
x = u + 3;       // 1
y = v - 4;       // 2
t = w * 2;       // 3
L1: x = x - 1;   // 4
   y = y + 1;   // 5
   br L2 if x > y; // 6
   t = y + 1;   // 7
   br L3;       // 8
L2: x = x - 1;   // 9
   x = x - 2;   // 10
L3: br L1 if x > 0; // 11
```

A) Find the kill set and gen set of each basic block.

B) Find reaching definitions before and after each basic block (IN and OUT) with iterative method. In each iteration, use preorder of the basic block of CFG.