



4. Use the worklist algorithm to apply reaching definitions analysis to this program, showing intermediate analysis results as well as the worklist contents at each step:

```
1 : y := x
2 : z := 1
3 : if y = 0 goto 7
4 : z := z * y
5 : y := y - 1
6 : goto 3
7 : y := 0
```

3. What is the right initial dataflow information for live variables analysis?