ECE 321: Software Requirements Engineering
Assignment 3

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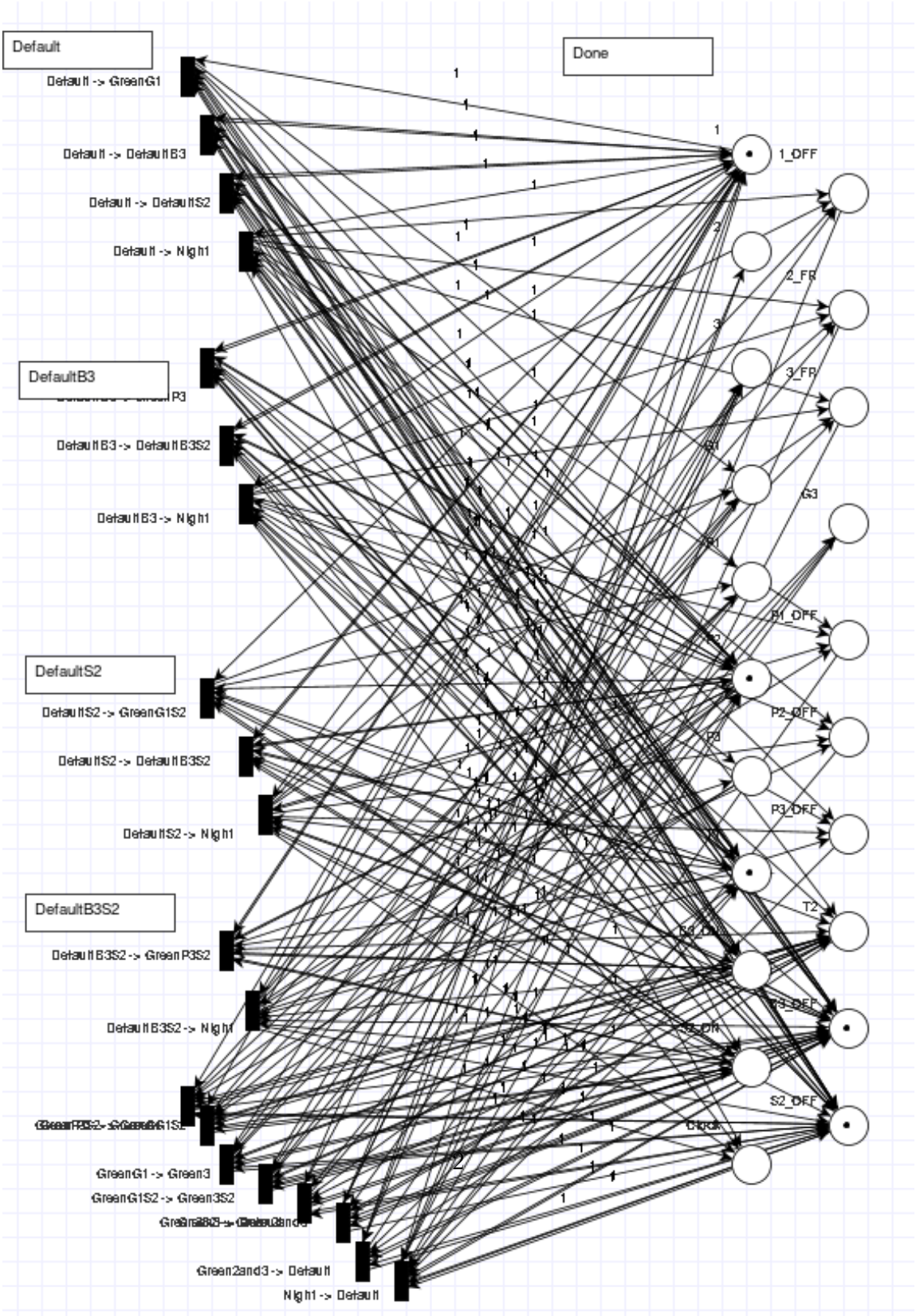

Figure 1: Screenshot of the petri net created in PIPE

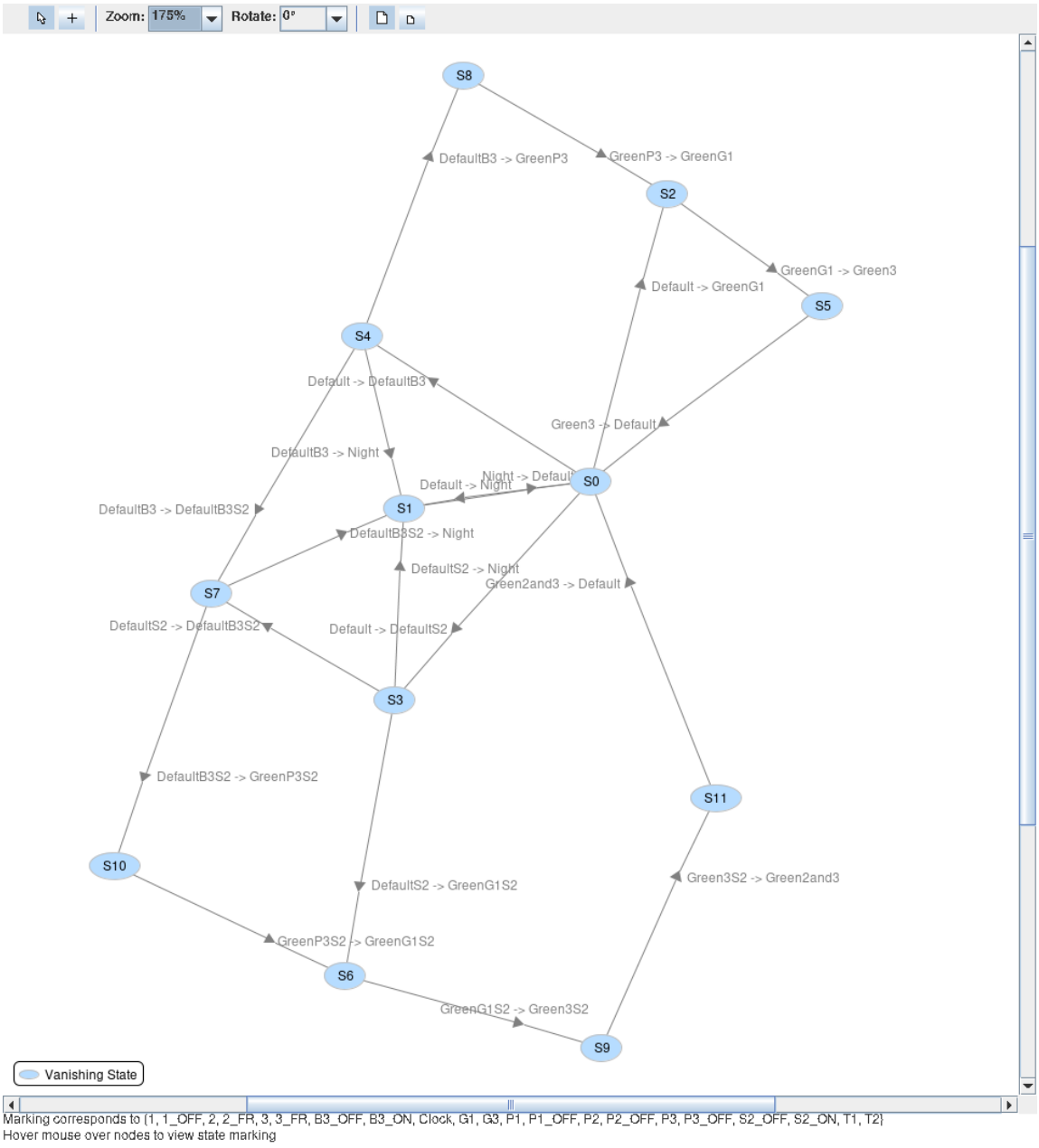

Figure 2: Screenshot of the reachability graph generated from the petri net

2 Description of transitions

1. Default → GreenG1
2. Default → DefaultB3
3. Default → DefaultS2
4. Default → Night
5. DefaultB3 → GreenP3
6. DefaultB3 → DefaultB3S2
7. DefaultB3 → Night
8. DefaultS2 → GreenG1S2
9. DefaultS2 → DefaultB3S2
10. DefaultS2 → Night
11. DefaultB3S2 → GreenP3S2
12. DefaultB3S2 → Night
13. GreenP3 → GreenG1
14. GreenP3S2 → GreenG1S2
15. GreenG1 → Green3
16. GreenG1S2 → Green3S2
17. Green3 → Default
18. Green3S2 → Green2and3
19. Green2and3 → Default
20. Night → Default

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3.1 Is the model conservative?

3.2 Can we have deadlock?

Using the *Space analysis tool* in PIPE, we see that the model is bounded, safe, and has no deadlock.

3.3 Can we have starvation?