1 Today's Lecture

The Myhill–Nerode theorem and minimization (intuitions). Then we continue to [Vardi, 1995, Section 2.1]

2 Report Assignments

2.1 Logistics

- Due: the beginning of the next lecture

- Hand in a hard copy, or submit electronically

  - To: `i.hasuo [at] acm.org` *and* `soichi [at] is.s.u-tokyo.ac.jp` (Soichiro Fujii, TA).
  - Title: "MSFM Report Assignment" (we filter messages)

- Put your name in your pdf (we print them)

2.2 Problems

1. Proposition 3 in [Vardi] holds only for deterministic automata, and not necessarily for nondeterministic automata. Present a counterexample.

2. Is the class of languages (over infinite words) recognized by Büchi automata closed under taking complements?
   (You can find the answer in [Vardi]. If possible try to briefly explain why.)

3. In the following Kripke structure, let s_0 be the top middle state.
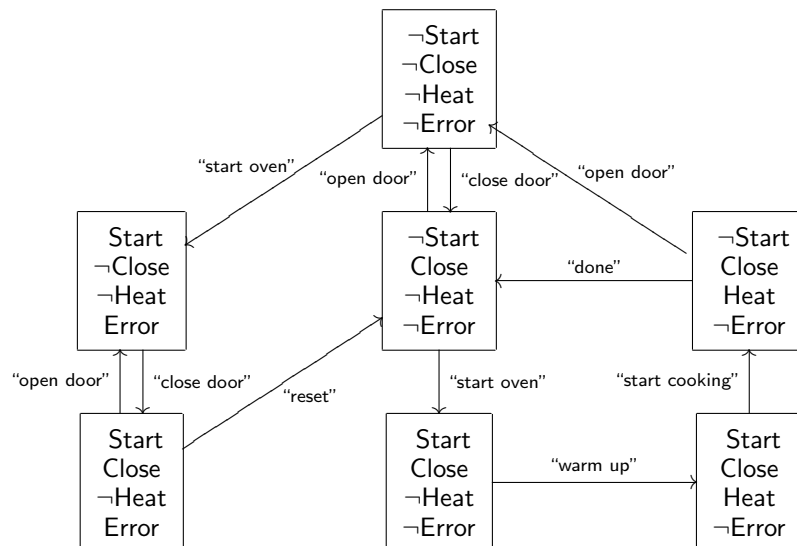
Decide the following (universal) model-checking problem.

$$u \models \mathbf{G}(\mathsf{Start} \to \mathbf{F}\mathsf{Heat}) \qquad \text{for each paths } u \text{ starting from } s_0$$