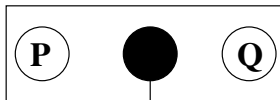


*SimpleSystem*

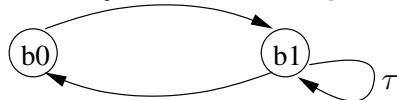


$$\begin{aligned}
 SV_{SimpleSystem} = & \\
 & \langle \text{p-send}(m), \text{in}(m), - \rangle \rightarrow \text{in}(m) \\
 & \langle \text{p-a}, -, - \rangle \rightarrow \text{p-a} [\forall x. \text{p-a} \neq \text{p-send}(x)] \\
 & \langle -, \text{out}(m, \text{ec}), \text{q-recv}(m, \text{ec}) \rangle \rightarrow \text{out}(m, \text{ec}) \\
 & \langle -, -, \text{q-b} \rangle \rightarrow \text{q-b} [\forall x, y. \text{q-b} \neq \text{q-recv}(x, y)] \\
 & \langle -, \tau, - \rangle \rightarrow \tau
 \end{aligned}$$

*PerfectBuffer*

vars:  
 b\_ec: Nat  
 b\_msg: Data

$\text{in}(?m) \{ \text{b\_ec} := 0, \text{b\_msg} := m \}$



$\text{out}(\text{b\_msg}, \text{b\_ec}) \{ \text{b\_ec} := \text{b\_ec} + 1 \}$