

$$\begin{aligned}
(\mathbb{C}_{out} = \text{State}(\mathbb{L}, \mathbb{C}_{in})) &\stackrel{\text{def}}{=} \exists i, s : i \in \mathcal{I} \wedge \\
&(\exists d : \text{Map}(\mathcal{L}_x(F_u(i)), d, s) \wedge \\
&\neg(\exists e, j, v : (R_u, i) \triangleleft (R_v, j) \wedge \text{Map}(\mathcal{L}_y(F_v(j)), e, s)) \wedge \\
&\mathbb{C}_{out}(s) = \mathcal{B}(\mathcal{L}_x(F_u(i)))) \vee \\
&(\neg(\exists e : \text{Map}(\mathcal{L}_x(F_u(i)), e, s)) \wedge \mathbb{C}_{out}(s) = \mathbb{C}_{in}(s)) \quad (8)
\end{aligned}$$