Definition (Obedience)

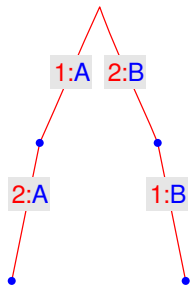
Given the decision policy $P = \langle \mathcal{U}, T : \text{Sequences}(\mathcal{Y}) \to \mathcal{U} \cup \{\epsilon\} \rangle$, we say that an ISFSM $\langle \Sigma, \Gamma, S, s_0, \delta, \omega \rangle$ **obeys** the policy P if for every finite sequence $y_1, \ldots, y_n \in \mathcal{Y}$, there exists a sequence $s_0, \ldots s_{n-1} \subseteq S$ such that

$$s_i = \delta(s_{i-1}, y_i) \text{ for all } i = 1, \ldots, n$$

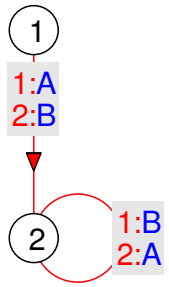
and

$$T(y_1, \ldots, y_n) = \omega(s_{n-1}, y_n) \quad \text{or} \quad T(y_1, \ldots, y_n) = \epsilon.$$

Example (Obedience)



(a) Policy



(b) FSM