

Concurrent games.

$$(S, \Gamma_1, \Gamma_2, M, P)$$

• S : states

$$\Gamma_1, \Gamma_2: S \mapsto 2^M \setminus \emptyset$$

$\Gamma_i(s)$: set of moves Pl. i
can play at s .

M : set of moves.

$$P \{ : S \times M \times M \mapsto \text{Distr}(S)$$

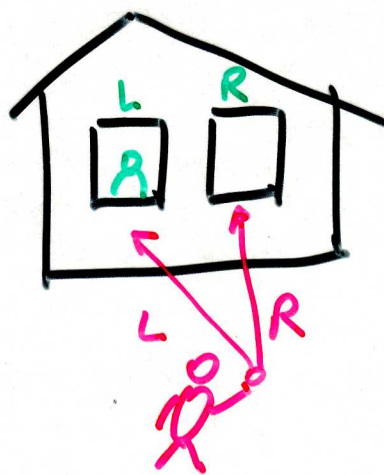
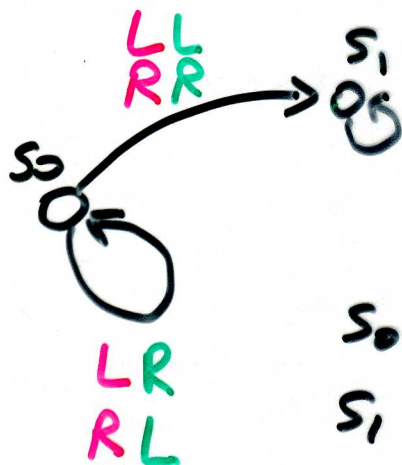
So, $p(s, a, b)(t)$ is the
prob. of $s \rightarrow t$ if:

Pl. 1 plays a

Pl. 2 plays b .

LEFT-OR-RIGHT

2.



s_0 : not hit
 s_1 : hit

Goal: $\diamond s_1$.

Let Π_1 is deterministic:

$$\Pi_1: S^+ \mapsto M$$

(such that, $\forall \sigma \in S^+, \forall s \in S,$
 $\Pi_1(\sigma, s) \in \Gamma_1(s)$)

Call Π_1^D the set of determ strat.

$$\forall \pi_1 \in \Pi_1^D \exists \pi_2 \in \Pi_2^D.$$

outcome(s, π_1, π_2) $\not\in \diamond s_1$.

as p is determ in this game.

