Thursday, January 22, 2026 4:42 PM

$S = \{x_1, x_2, \ldots, x_n\}$

reinforcement learning

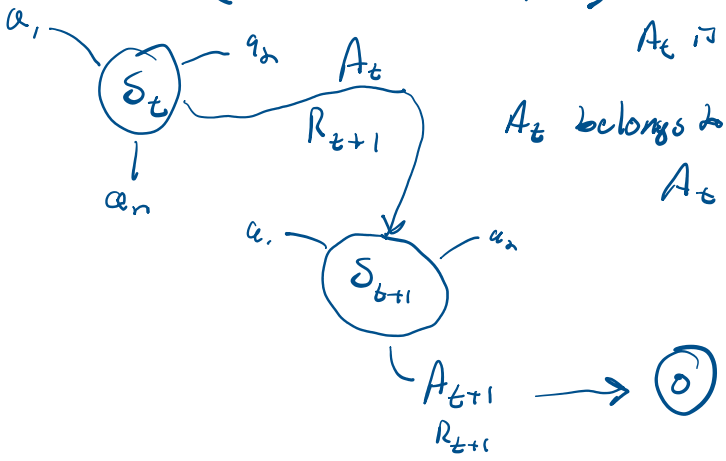
states

agent – transition from one state to another

the agent is in state $S_t \in S$, where S_t is a random variable

action

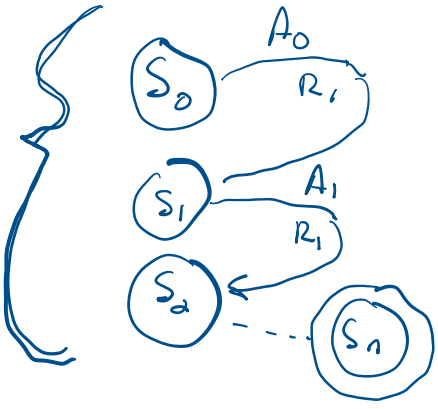
$A = \{a_1, a_2, a_3, \ldots, a_n\}$



A_t is a random variable

A_t belongs to set of Actions

$A_t \in A$



episode

R_{t+1} = immediate reward on performing action A_t in state S_t

Finite situation

the sets S, A, R are finite

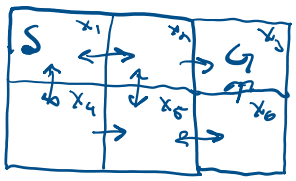
State
Action
Reward

"Maze"

state space

S = start

G = goal



G = goal

$S = \{ x_1, x_2, \ldots, x_6 \}$

$A = \{ \uparrow, \downarrow, \leftarrow, \rightarrow \}$

$R = \{ 0, 100 \}$