

# ISFSM

## Definition (Incompletely-Specified Finite State Machine)

An **incompletely-specified finite state machine** is a tuple

$$\langle \Sigma, \Gamma, S, s_0, \delta, \omega \rangle,$$

where

- $\Sigma$  is an input alphabet,
- $\Gamma$  is an out alphabet,
- $S$  is a finite set of states,
- $s_0 \in S$  is an initial state,
- $\delta : S \times \Sigma \rightarrow S \cup \{\phi\}$  is a state-transition function,
- $\omega : S \times \Sigma \rightarrow \Gamma \cup \{\epsilon\}$  is an output function,

and  $\phi$  and  $\epsilon$  denote unspecified outputs.