



$FSM = (I, O, S, r, \delta, \lambda)$

$I = \{SEES_CAT, CAT_GONE, END_BARKING_COUNTER_3, GETS_PETTED, END_TIMER_5\}$

$O = \{START_BARKING_COUNTER, START_TIMER\}$

$S = \{SITS, BARKS, WAGGS_TAIL\}$

$r = \{SITS\}$

$\delta: I \times S \rightarrow S$ –state transition function

e.g. $(\{SEES_CAT\}, SITS) = BARKS$

$\lambda: I \times S \rightarrow O$ –output function

e.g. $(\{SEES_CAT\}, SITS) = \{START_BARKING_COUNTER\}$