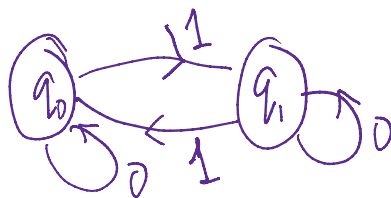


Game

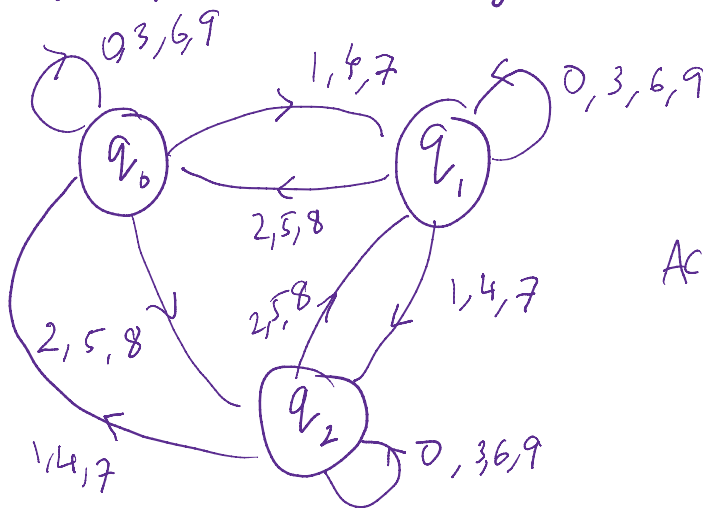
Course topics, motivation (hardware, AI, brains, the universe!)

Canvas, Piazza, Gradescope

① input: 01101----output: YES if #1's is evenACCEPT if q_0 is final state

②

Accept if input decimal integer is divisible by 3.

ACCEPT if q_0 is final.

Finite Automata (DFA)

Q : finite set of states $Q = \{q_0, q_1, \dots\}$

Σ : input alphabet, e.g. $\Sigma = \{0, 1\}, \{a, b, c, \dots, z\}$
(finite) $\{0, 1, \dots, 9\}$.

' (finite)

$\{0, 1, \dots, q\}$.

$$\delta: Q \times \Sigma \rightarrow Q$$

transition function $(q, a) \rightarrow q'$.

$F \subseteq Q$: accepting states.

$q_0 \in Q$: start state.