Lecture #2: Introduction to Deterministic Finite Automata

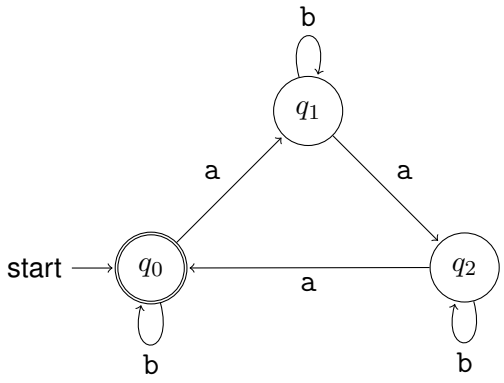
What Will Happen During the Lecture

Review

The lecture presentation will begin with a ***brief*** review of the material in the preparatory videos and documents for this lecture — and students will have the chance to ask questions about this.

Problems To Be Solved

Consider a deterministic finite automaton $M = (Q, \Sigma, \delta, q_0, F)$ that has alphabet $\Sigma = \{\mathtt{a}, \mathtt{b}\}$ and that can be represented as follows.



One can see from this picture that $Q = \{q_0, q_1, q_2\}$, q_0 is the start state (as the representation of M as a 5-tuple also shows) and that $F = \{q_0\}$.

During the lecture presentation, additional properties of M and its language will be explored, in order to help students to assess their understanding of material from the lecture presentation and see how it can be applied. Students who have time are encouraged to fill out the "Notes For You To Complete" before the lecture presentation, in order to be better prepared for upcoming exercises, assignments, and tests.