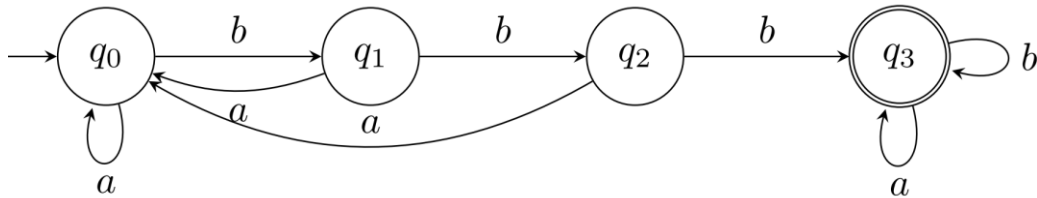


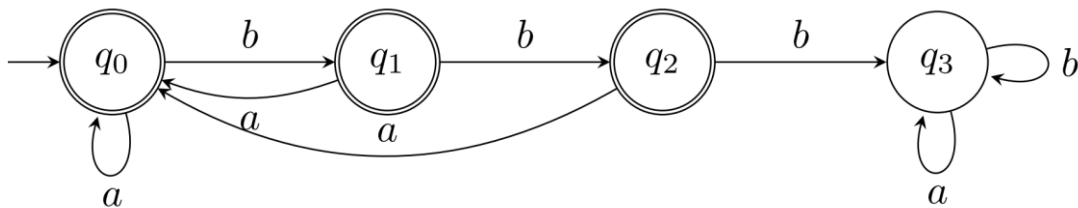
## Exercise #1

### COSC 3106: Deterministic Finite Automaton

**Problem 1:** What language is recognized by the following DFA over the alphabet  $\{a, b\}$ ? Provide justification for your answer.



**Problem 2:** Construct a new DFA that accepts its complement? Then, verify your answer.



**Problem 3:** Define the language of the following DFA?

