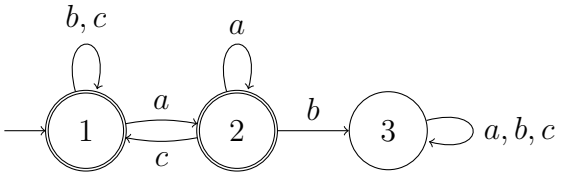
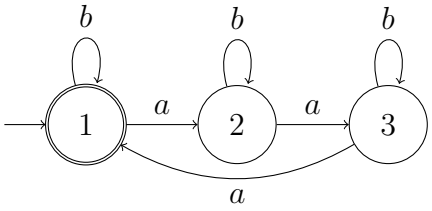
ComS 331 Spring 2024 Name: Aren Ashlock

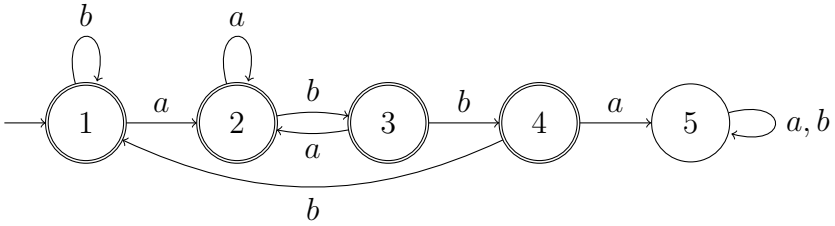
1. Draw a DFA, simplified to the best of your abilities, that recognizes the language of **all** strings of a's, b's, and c's where a is never immediately followed by b.



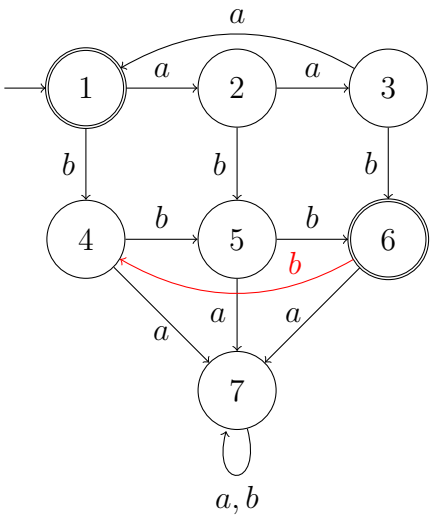
2. Draw a DFA, simplified to the best of your abilities, that recognizes the language $L = \{w \in \{a, b\}^* : |w|_a \bmod 3 = 0\}$.



3. Draw a DFA, simplified to the best of your abilities, that recognizes the language $L = \{w \in \{a, b\}^* : w$ does not contain the substring $abba\}$.



4. Draw a DFA, simplified to the best of your abilities, that recognizes the language $L = \{a^i b^j : (i + j) \bmod 3 = 0\}$. Please explicitly draw the trap state, if needed, in your DFA.



NOTE: The red doesn't mean anything for this question. I just changed the color to establish what line the letter b goes with.