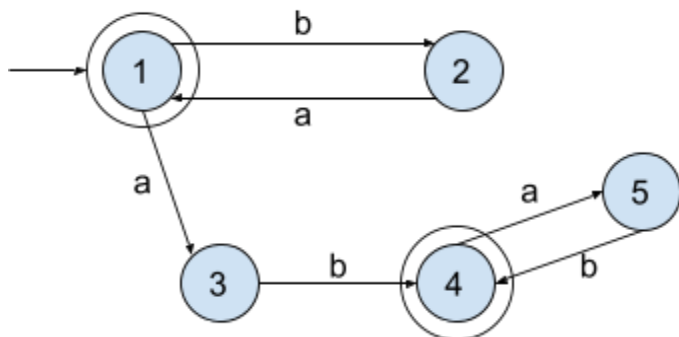
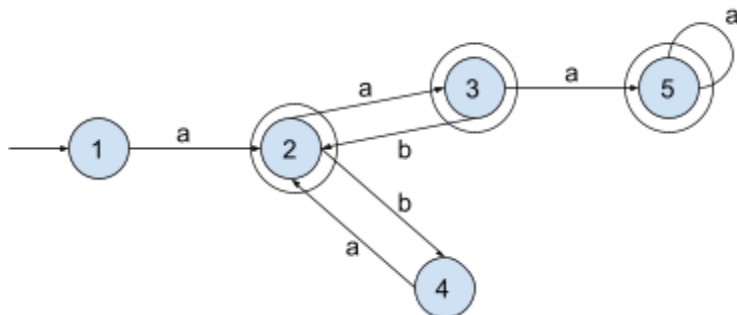


Problem 1

a) $R1 = (ba)^*(ab)^*$



b) $R2 = a(ab|ba)^*a^*$



Problem 2

a) “ba”

In R1, “ba” goes from state 1 to state 2, and back to state 1 where it is accepted. However, in R2, “ba” would be unable to get past state 1 since it requires that there be at least one “a” at the start of its strings.

b) “a”

In R2, “a” goes from state 1 to state 2, where it is accepted. However, in R1, “a” would only be able to go to state 3, which is not an accepting state.