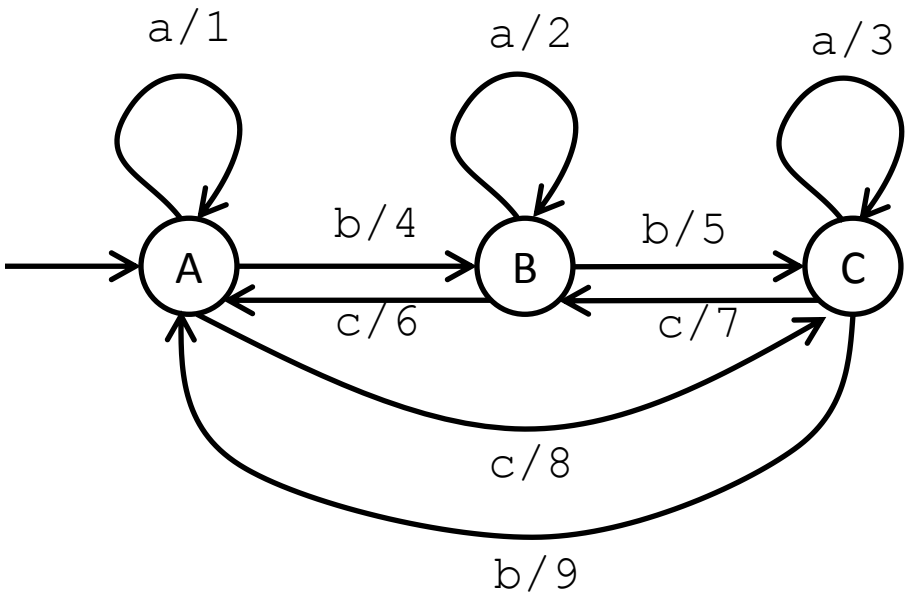
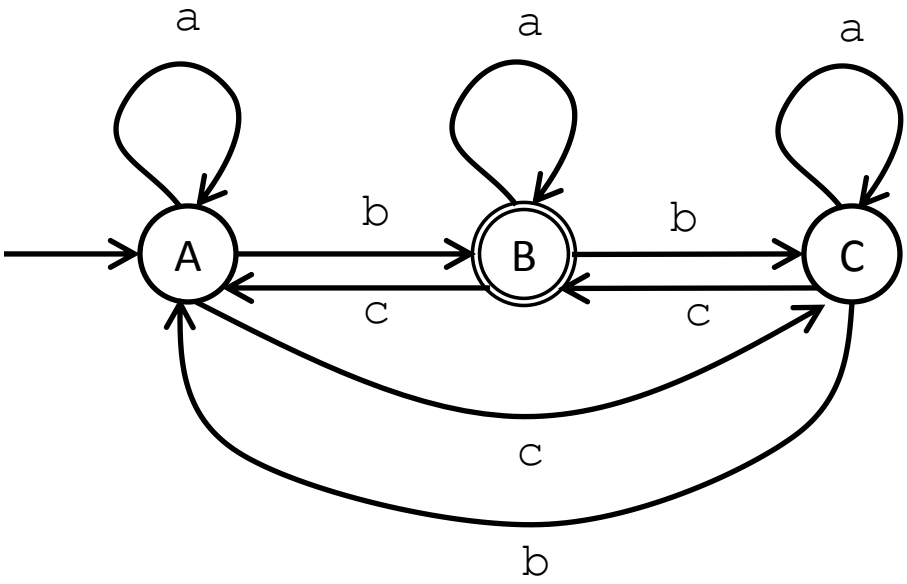
Name _____Discrete II, Spring 2017, Quiz 5

1) Given the finite state machine illustrated below, find the output for the input string "abc"



2) Given the finite state automata illustrated below, determine whether the string $abbbca$ is accepted or rejected. Show your work.



3) Given the grammar $G = (N, T, P, \sigma)$ with $N = \{A, B\}$, $T = \{a, b, c, d\}$, $\sigma = A$, and P consisting of the productions below, give a derivation to show that $abc \in L(G)$.

$$A \to abA$$
$$A \to Abc$$
$$bAb \to b$$
$$bA \to B$$
$$B \to aB$$
$$B \to bB$$
$$B \to c$$
$$B \to abc$$