Quiz 1

1. Which of the following statements hold for all languages L_1 and L_2?

   (a) $(L_1 L_2)^R = L_1^R L_2^R$

   (b) $(L_1 L_2)^R = L_2^R L_1^R$

   (c) both (a) and (b)

   (d) neither (a) nor (b)

2. Let $\Sigma = \{a, b\}$ and let $L = \{a^n b^n \mid n \geq 0\}$. Which of the following strings is in $\overline{L^2}$?

   (a) $aaabbb$

   (b) $abab$

   (c) ab

   (d) λ

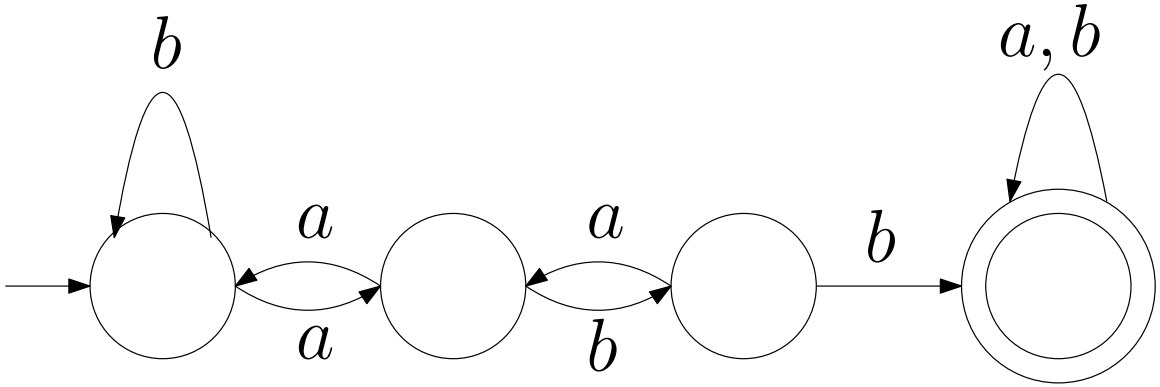
   (e) bba

3. There exist finite languages that are not regular.

   (a) True

   (b) False

4. The string $ababba$ is accepted by the following DFA

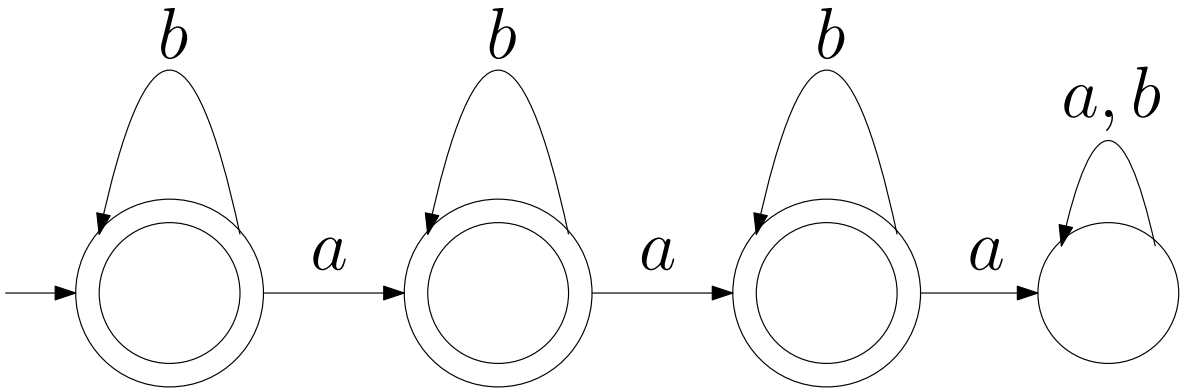


(a) True

(b) False

(c) Sometimes true and sometimes false.

5. The language accepted by the following DFA over the alphabet $\Sigma = \{a, b\}$ is



(a) all strings with no more than two a's

(b) all strings with at least two a's

(c) all strings with an odd number of a's

(d) all strings with exactly two a's