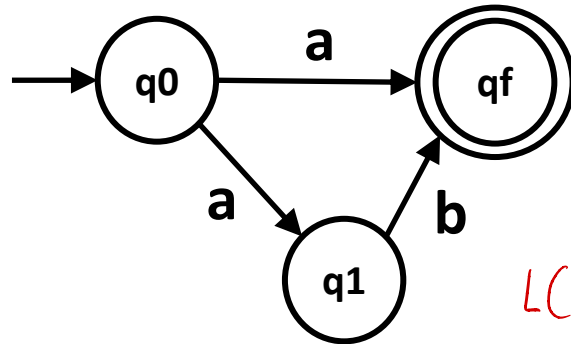


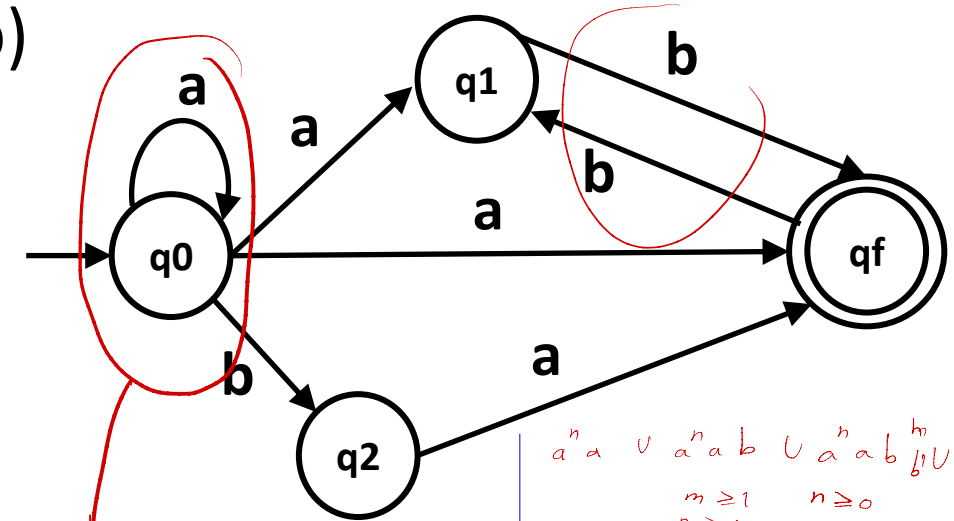
*3. What are the languages accepted by the following NFA ?

a)



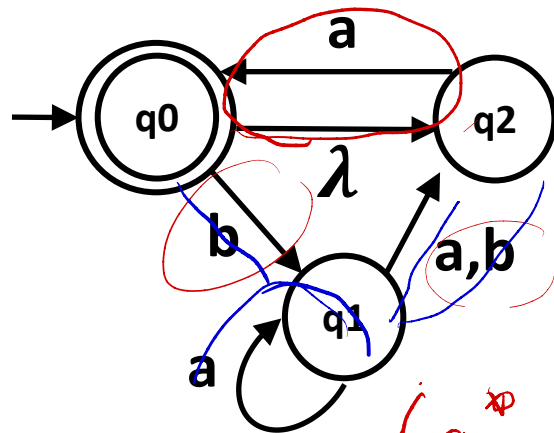
$$L(M) = \{a, ab\}$$

b)



$$\begin{aligned}
 & a^n a \cup a^n a b \cup a^n a b^m \cup a^n b a b^n \\
 & \quad \quad \quad n \geq 1 \quad n \geq 0 \\
 & a^n \cup a^n b^m \cup a^n b a \\
 & \quad \quad \quad n \geq 1 \quad m \geq 0 \\
 & L(M) = \{a^n b^m : n \geq 1, m \geq 0\} \cup \\
 & \quad \quad \quad \{a^n b a b^m b^n : n \geq 0, m \geq 0, L \geq 0\}
 \end{aligned}$$

c)



$$\{aa, ba, a^*\}$$

$$L(M) = \{a^* \cdot \{b, a^*\} \cdot a^* \cdot \{a^*, ba\}\}$$

$$L(M) = a^* \cdot \{ab, a, ba\} \cdot \{bb\}^*$$